DOCUMENT RESUME

ED 359 082 SO 022 122

AUTHOR	Martin, Robert A., Ed.
TITLE	Infusing a Global Perspective into the Study of Agriculture: Student Activities Volume II.
INSTITUTION	Future Farmers of America Foundation, Washington, D.C.; National Council for Agricultural Education, Alexandria, VA.
SPONS AGENCY	United States-Japan Foundation.
PUB DATE	91
NOTE	246p.; This project is coordinated and managed by the National Task Force on International Agriculture. For volume I, see ED 330 610.
PUB TYPE	Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF01/PC10 Plus Postage.
DESCRIPTORS	*Agricultural Education; Agriculture; Foreign Countries; *Global Approach; High Schools; Instructional Materials; International Relations; International Trade; Learning Activities; *Teaching Methods

ABSTRACT

These student activities are designed to be used in a variety of places in the curriculum to provide a global perspective for students as they study agriculture. This document is not a unit of instruction; rather, teachers are encouraged to study the materials and decide which will be helpful in adding a global perspective to the learning situation at hand. Each activity includes the purpose, student performance objectives, procedures for instruction, materials needed for instruction, and references. The following are examples of the 15 activities that are included: Developing a Bonsai Planting (T. Paulsen); Aquaculture: International Implication (D. McCracken); Forest Products from World Forests (J. Harrold); and American and Japanese Agricultural Cooperatives (B. Hanna). (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED359082

SO 023 192

Infusing a Global Perspective into the Study of Agriculture

STUDENT ACTIVITIES
Volume II

Agriculture

Your Avenue to the World

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality

- Points of view or opinions stated in this docu ment do not necessarily represent officia OERI position or policy

"PERMISSION TO REPRODUCE THI MATERIAL HAS BEEN GRANTED B
ROBERT A
MARTIN

TO THE EDUCATIONAL RESOURCE INFORMATION CENTER (ERIC)."

Produced by:
The National Council for Agricultural Education
The National Task Force on International Agriculture

A Special Project of:
The National
FFA Foundation

Funded By:
The
U.S. - Japan Foundation

1990 - 1991

Table of Contents

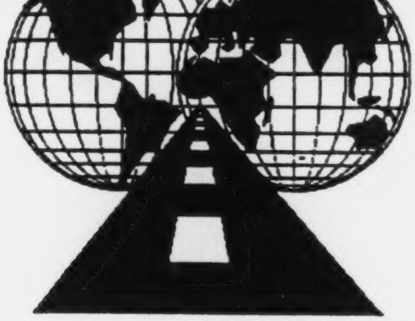
Title Page
A. Introduction i
B. Acknowledgements ii
C. Title Page iii
D. Developing A Bonsai Planting
Tom Paulsen 1
E. Residential Landscape Planning: Another Way
Eric Mayer 13
F. Aquaculture: International Implication
David McCracken 24
G. The World of Aquaculture
W. Wade Miller 44
H. Aquaculture: Identifying Export Partners
Larry Redding 50
I. Forest Products from World Forests
James Harrold 60
J. Forest Products: A Calculation Exercise
Larry Daniels 71
K. Processing Tofu: A Taste of Japan
Wayne Nattress 78
L. Adding Value to Agricultural Products Through Marketing
Craig McEnany 85
M. American and Japanese Agricultural Cooperatives
Brent Hanna 93
N. Strategy 2000
Jim Spiess 102
O. Global Factors: Impact on Agricultural Commodity Prices
Dan Humphrey 108
P. Knowing Your Trading Partner - Japan and the Japanese
Donald Mincemoyer 126
Q. Agriculture on the Big Board
Earl Ferry 154
R. The Global Market
Kathleen Jones 185
S. Selected References and Materials 213
T. Evaluation Form 214

Introduction

The need for developing an awareness of the global nature of the agricultural industry continues to grow. This phenomenon has been brought about by the continual internationalization of the "market place" and the need to know more about people, their cultures, their practices, and their goals, aspirations and ways of thinking. For agriculture to succeed on a global scale there must be an understanding of the agricultural systems and the societies in which they operate.

This student activities packet is the second in a series of instructional materials that may be useful in the study of agriculture in an attempt to add a global perspective to agricultural education. This packet is **not** a unit of instruction. It is a series of activities that can be used in a variety of places in a variety of ways in the curriculum. The activities can be used to add a deeper and broader experience for students as they study agriculture. Teachers should carefully study the packet and use the materials to add a global perspective to the learning situation. Some activities are very simple, some more complex. Some require preparation of materials, others are ready to use immediately. We hope teachers will find the activities helpful in assisting students to gain a global perspective of agriculture.

Robert A. Martin
Chairperson
National Task Force on
International Agriculture



Acknowledgements

The activities presented in this instructional materials packet were developed by participants in the 1990 international agricultural education infusion project.

This project is coordinated and managed by the National Task Force on International Agriculture as a major program effort of The National Council for Agricultural Education. The program was funded by the United States - Japan Foundation through a special project of the National FFA Foundation

Three state teams - Ohio, Iowa and Pennsylvania - were selected through a national review process to participate in this program. The development of instructional materials - student activities - represents one of four phases of the project. The other phases included: Host-Country Experience, Teacher Inservice Education Program and Evaluation of Impact. This packet represents the efforts of the following individuals to whom appreciation is gratefully acknowledged.

Ohio

Larry Daniels - Department of Education
Jim Spiess - Wauseaon High School
David McCracken - Ohio State University
Eric Mayer - Ashland High School
Dan Humphrey - Fredericktown High School

Iowa

Brent Hanna - Knoxville High School
Tom H. Paulsen - Lynnville-Sully H.S.
Wayne Nattress - Dept. of Education
W.Wade Miller - Iowa State University
Craig A. McEnany - Des Moines Area Comm. College

Pennsylvania

Earl Ferry - Selinsgrove H.S.
Larry Redding - Dept. of Education
Donald Mincemoyer - Penn State Univ.
Kathleen M. Jones - Lower Dauphin H.S.
James B. Harrold - Somerset Co. Area Voc. Tech School

Task Force on International Agriculture

Robert A. Martin - Chairperson
Iowa State University
Jack Keller
National FFA Foundation
Les Olson
State Department of Education - Kansas
Lennie Gamage
National FFA - International Programs
Richard Welton
USDA - Retired
Jeff Brazo
National FFA Foundation
Gary White
North Fayette High School
Walter Fernandez - Coordinator
Ex-Offico Member Task Force
National Council

Typist
Sandy Klooster

Artwork
Larry Geerts and Sandy Klooster

Edited by:
Robert A. Martin
Associate Professor
Department of Agricultural Education & Studies
Iowa State University
Ames, IA 50011
1990-91

Infusing a Global Perspective into the Study of Agriculture

Student Activities

Volume II

The National Council for Agricultural Education
The National Task Force on International Agriculture

1990-1991

A Student Activity for
Infusing an International Perspective
into a
Horticulture Unit or
Related Units

Developing a Bonsai Planting

Purpose

The main purpose of this activity is to help the student complete a bonsai planting. The ultimate goal is for the student to further his/her understanding of the Japanese culture through the art of bonsai.

Developing A Bonsai Planting

Plan of Action

Student Performance Objectives:

1. Define and explain the process of developing a bonsai planting.
2. Explain the cultural significance of bonsai.
3. Successfully construct a bonsai planting.

Procedures for Instruction:

1. Have the students brainstorm a list of container plantings used for indoor or patio landscaping. Develop a list of the materials and plants needed for one or two of these plantings. (Use seasonal plantings that the students may be very familiar with such as window boxes, hanging baskets, whiskey barrels, holiday greenery or terrariums.) Discuss the various uses of the plantings and determine the length of time the planting will be used.

2. Distribute the fact sheet on bonsai. Discuss the information with the students and on the chalk board or overhead, have them list and explain the differences between bonsai and the container plantings discussed previously.

3. Present the steps in developing a bonsai planting on the transparency. You may want to continue the comparisons with our previously mentioned container plantings by determining the differences in construction with that of bonsai.

4. Have each student or group of students create a bonsai planting.

Suggestions for Instruction:

1. For large classes, you may wish to have the students work in groups on their bonsai plantings.

2. If you want your students to collect their own bonsai plant, have them collect them two weeks prior to this activity and pot them in the school greenhouse and allow them to become familiar with a container environment.

3. Almost any plant can be used for bonsai. Use whatever plant is common to your geographical area. Some plants that work very well include:

Evergreen	Deciduous
Atlas Cedar	Japanese Maple
English Ivy	Chinese Elm
Mugho Pine	Sweet Gum
Chinese Juniper	Scrub Oak
Western Red Cedar	Cedar Elm
Jack Pine	

4. The container used for the bonsai plantings in this activity could be made by your students through a cooperative effort with the Art instructor in your school.

Materials Needed for Instruction:

1. Overhead, transparencies, and/or blackboard
2. Bonsai container with at least two drainage holes (These are shallow, usually oval, and unglazed on the inside.)
3. Potting media and aquarium (small) gravel
4. Plastic or aluminum mesh and masking tape
5. Copper wire in various gauges from 9 to 20
6. Pruners, scissors, tweezers, snippers and knife. (Some will need to be for small work).
7. Chopsticks or a sharpened dowel
8. Plant to be used for the bonsai

Evaluation Activities and/or Questions:

1. List three differences between a bonsai planting and a patio or indoor planting.
2. Describe three qualities of a bonsai container.
3. List four tools used in bonsai construction.
4. Why should you use copper wire for training?
5. Why do you wire the bonsai plant into the container?
6. Name three common types of plants that can be used for bonsai.
7. Establish points for grades for the completed bonsai.

References:

The Editors of Shufunotomo, The Essentials of Bonsai. Shufunotomo Co., Ltd., Tokyo, Japan, 1988.

Reiley and Shry, Introductory Horticulture 3rd Edition, Delmar Publishers Inc., Albany, NY, 1988.

Anderson, Floral Design and Marketing, Ohio Agriculture Education Curriculum Materials Service. Columbus, Ohio 1988.

Developing a Bonsai Planting

Fact Sheet

1. Bonsai is the Japanese word for tray arrangement.

2. Bonsai is an art form that deals with the world in miniature. Small trees or plants are planted into small containers and "trained" with flexible copper wire to achieve an aged look. In the heavily populated areas of Japan there is not a lot of room for landscaping, gardens, or orchards, so the Japanese people use bonsai to bring nature right in to their home or backyard.

3. The art of bonsai originally came from China over 2,000 years ago. It found its way to Japan and was refined into the art from we see today. Just as its development reflects, time is the most important aspect in bonsai creations. Many bonsai found in Japan today are well over four hundred years old. It may take two or three years just to get a plant to faintly resemble a true bonsai.

4. Bonsai can be constructed from many different plants. The most popular types are from the pine family, but bonsai can be developed from deciduous, tropical, flowering, and broadleaf evergreen plants as well.

5. Second in importance to the type of plant selected for bonsai is the selection of a container. Bonsai containers come in practically every shape, size, and color imaginable. However, all bonsai containers have many similarities. The containers are shallow, have two or more large drainage holes, and are made from stoneware pottery that is unglazed on the inside. The most important similarity is that these containers are simple in construction and do not distract form the beauty of the plant.

6. From the Western viewpoint, bonsai are small, container grown plants. But to the Japanese, this form of art is much more than art. The Japanese practice the religions of Shintoism and Buddhism. The Shintos revered the things of nature as gods. Shaping these trees into bonsai gave the people an opportunity to respect and bring the gods into their home.

✓

Developing a Bonsai Planting

Steps in Constructing a Bonsai Planting

1. Remove your bonsai plant from its present container.
2. Shake loose the excess soil from the root ball and remove all compacted soil with a chopstick.
3. Carefully prune back the root system to fit the size of your container.
4. Cut two squares of the plastic or wire mesh larger than the holes in the container and tape them over the holes on the inside. This will keep the media from falling out.
5. Insert an appropriate length of medium gauge copper wire up through two of the holes in the container and leave the two ends free. These ends will hold the plant in place.
6. Place one-quarter to one-half an inch of gravel into the container depending upon its size.
7. Place the trimmed plant into the container. Bonsai plants are generally planted off center.
8. Secure the plant by wiring it in place with the two ends of wire. Cut off the excess wire and push the twisted end into the root ball.
9. Add the media a little at a time and work it around the roots carefully with a chopstick and firm with your fingers. This will prevent air pockets.
10. Leave some surface irregularities to give a more natural look. Brush away some of the media to expose part of the root. This gives the impression of an old tree.
11. Water carefully and completely with a shower-type watering can.
12. You may add moss, rocks, or other landscaping materials to the surface of your media. Remember that you are trying to duplicate what happens in nature.
13. Trim any dead or unwanted branches from the plant with a scissors and any brown needles with a tweezers.
14. Using a knife, cut and peel away any part of bark where you want a dead section to be. Be careful not to do too much at a time or you could kill the plant.
15. You are now ready to train your bonsai using the copper wire. To train a living branch, simple wrap the wire loosely around the branch and bend it to the desired position. The wire used to train a particular branch should be one-fourth the diameter of the branch.

Plant Material Used for Bonsai

Evergreen

Atlas Cedar
English Ivy
Mugho Pine
Chinese Juniper
Western Red Cedar
Jack Pine

Deciduous

Japanese Maple
Chinese Elm
Sweet Gum
Scrub Oak
Cedar Elm

Transparency #2

Steps in Constructing a Bonsai Planting:

1. Remove your bonsai plant from its present container.
2. Shake loose the excess soil from the root ball and remove all compacted soil with a chopstick
3. Carefully prune back the root system to fit the size of your container.

Steps in Constructing a Bonsai Planting(Cont.):

4. Cut two squares of the plastic or wire mesh larger than the holes in the container and tape them over the holes on the inside. This will keep the media from falling out.

5. Insert an appropriate length of medium gauge copper wire up through two of the holes in the container and leave the two ends free. These ends will hold the plant in place.

Transparency #2 (Cont.)

Steps in Constructing a Bonsai Planting(Cont.):

6. Place one-quarter to one-half an inch of gravel into the container depending upon its size.

7. Place the trimmed plant into the container. Bonsai plants are generally planted off center.

8. Secure the plant by wiring it in place with the two ends of wire. Cut off the excess wire and push the twisted end into the root ball.

Steps in Constructing a Bonsai Planting(Cont.):

9. Add the media a little at a time and work it around the roots carefully with a chopstick and firm with your fingers. This will prevent air pockets.

10. Leave some surface irregularities to give a more natural look. Brush away some of the media to expose part of the root. This gives the impression of an old tree.

Steps in Constructing a Bonsai Planting(Cont.):

11. Water carefully and completely with a shower-type watering can.

12. You may add moss, rocks, or other landscaping materials to the surface of your media. Remember that you are trying to duplicate what happens in nature.

13. Trim any dead or unwanted branches from the plant with a scissors and any brown needles with a tweezers.

Steps in Constructing a Bonsai Planting(Cont.):

14. Using a knife, cut and peel away any part of bark where you want a dead section to be. Be careful not to do too much at a time or you could kill the plant.

15. You are now ready to train your bonsai using the copper wire. To train a living branch, simply wrap the wire loosely around the branch and bend it to the desired position. The wire used to train a particular branch should be one-fourth the diameter of the branch.

A Student Activity for
Infusing an International Perspective
into a
Horticulture Unit or
Related Units

Residential Landscape Planning: Another Way

Purpose

The main purpose of this activity is to help the students recognize different ways of creating a residential landscape design based upon cultural needs, space considerations and the direction from which the landscape is viewed.

Residential Landscape Planning: Another Way

Plan of Action

Student Performance Objectives:

1. Identify the six major art principles typically used in residential landscape planning.
2. Compare American and Japanese cultural values and how they influence landscape design.
3. Illustrate a landscape design that enhances the view of the residence as seen from the property boundaries.
4. Illustrate a landscape design that enhances the view of the property as seen from inside the residence.

Procedures for Instruction:

This lesson is most appropriate for students who have had some training in the fundamentals of landscape design.

1. Distribute and discuss the contents of the Activity Packet.

2. Using pictures and/or slides of different landscape types, identify the six major art principles typically used in residential landscape planning.

3. Cut out landscape design symbols included in the Activity Packet.

4. Arrange the cut-out symbols on one of the 'sample properties' (included in the Activity Packet) to create a landscape design that enhances the view of the residence as seen from the property boundaries.

5. Arrange the cut-out symbols on the other 'sample property' to create a landscape design that enhances the view of the property as seen from inside the residence.

6. Establish a point for viewing both landscape and explain how that view illustrates the following design principles: simplicity, balance, proportion, vocalization, rhythm and line.

7. Explain how culture, space availability and purpose influence the development of a landscape plan.

8. Compare and/or contrast how the following garden types satisfy the six landscape design art principles: a Zen Temple Garden, an American Colonial Herb Garden, a German Beer Garden, a formal French Garden, and a Royal Indian Palace Garden.

Materials Needed for Instruction:

1. Map of the world
2. Activity Packet (includes: explanation of six universal art principles, landscape design symbol cut-out, two 'sample property' sheets, fact sheet)
3. Pictures and/or slides of different landscape types
4. Scissors

References:

Residential Landscapes, by Gregory M. Pierceall, (1984), Reston Publishing Company, Reston, Virginia.

Landscaping: Principles and Practices, by Jake E. Ingels (1978), Delmar Publishers, Division of Litton Educational Publishing, Albany, New York.

Japanese Courtyard Gardens, By Haruzo Ohashi, (1988), Graphic-sha Publishing Company, Ltd., Toyko, Japan.

The Ohio State University Slides on Landscaping - The Ohio State University Curriculum Materials Center. Department of Agricultural Education.

Student Fact Sheet

Cultural Landscape Fact Sheet

Although the artistic principles guiding the development of landscapes are universal, many other factors influence how a society of culture creates a purposeful landscape design. Among the most important factors are cultural needs, the amount of space (or land) available, and the purpose the landscape fulfills in the daily lives of the people who use it. Since different cultures approach these factors in a variety of ways and with a variety of resources, it is not surprising that a number of different landscape types have developed throughout the world. Listed below are several cultural factors that influence how the Americans and Japanese develop residential landscape.

AMERICAN	JAPANESE
-lot size rectilinear and much larger than house size	-lot size nearly equal to size of the house
-landscape enhances the appearance of the house	-landscape increases the privacy of the home
-climate allows people to be outside during every season	-climate forces people inside during rainy season
-large trees dominate open spaces of the landscape	-small trees and bonsai are very popular
-'religious landscaping' is virtually unknown	-'religious landscaping' is an important part of life
-lawns are an important part of the landscape	-vegetable gardens displace lawns in most open spaces

These factors combine to make American and Japanese residential landscapes very different. Most American homes rest on rectilinear lots that are much larger than the house itself. Landscapes are spacious and tend to focus towards the center of the property as seen from the outside. Thus landscape plantings are designed to complement the appearance of the house as seen from beyond the property boundaries. Large lot size and open areas in American landscapes decrease the need for privacy screens, such as hedges or walls. Open spaces can be designed for outdoor activities including barbecues, athletics, and gardening. In contrast, the Japanese residence rests on a small lot with fewer right angels. The house is the dominant feature of the property with little space for outdoor landscaping. Most Japanese residences lack lawns and tend to focus towards the boundaries as seen from the center of the property. Thus the landscape's appearance as seen from inside the home through windows and doors becomes very important. Small lots also increase the need for privacy screens thus making features of a Japanese residential landscape not visible from beyond the property boundaries.

Comparison of Landscape Design Values

American	Japanese
1. Lot size rectilinear and much larger than house size	1. Lot size nearly equal to size of the house
2. Landscape enhances the appearance of the house	2. Landscape increases the privacy of the home
3. Climate allows people to be outside during every season	3. Climate forces people inside during rainy season

Transparency 1

Comparison of Landscape Design Values

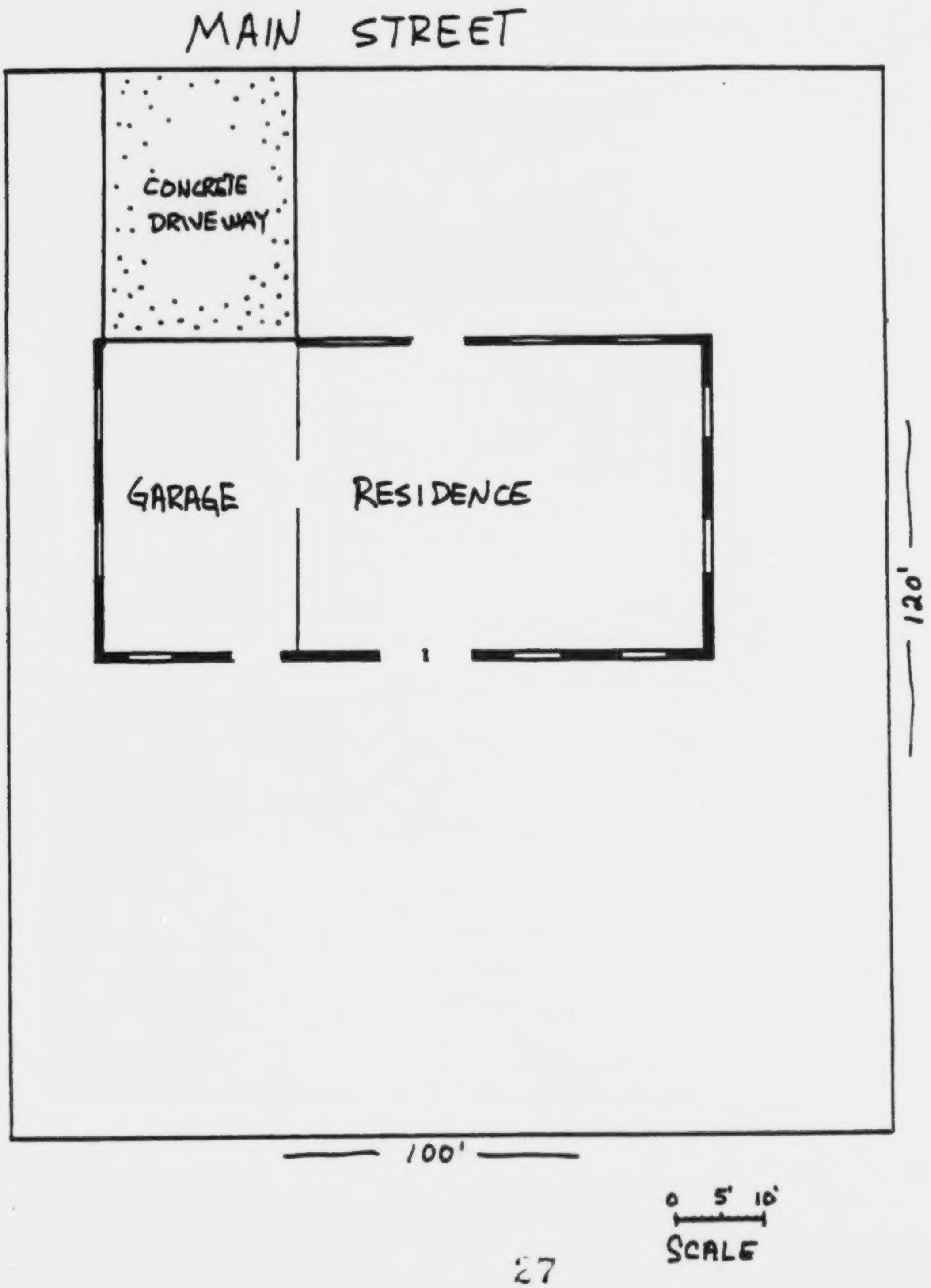
American	Japanese
4. Large trees dominate open spaces of the landscape	4. Small trees and bonsai are very popular
5. 'Religious landscaping' is virtually unknown	5. 'Religious landscaping' is an important part of life
6. Lawns are an important part of the landscape	6. Vegetable gardens displace lawns in most open spaces

Transparency 2

Sample Property 'A'

American Style Landscape

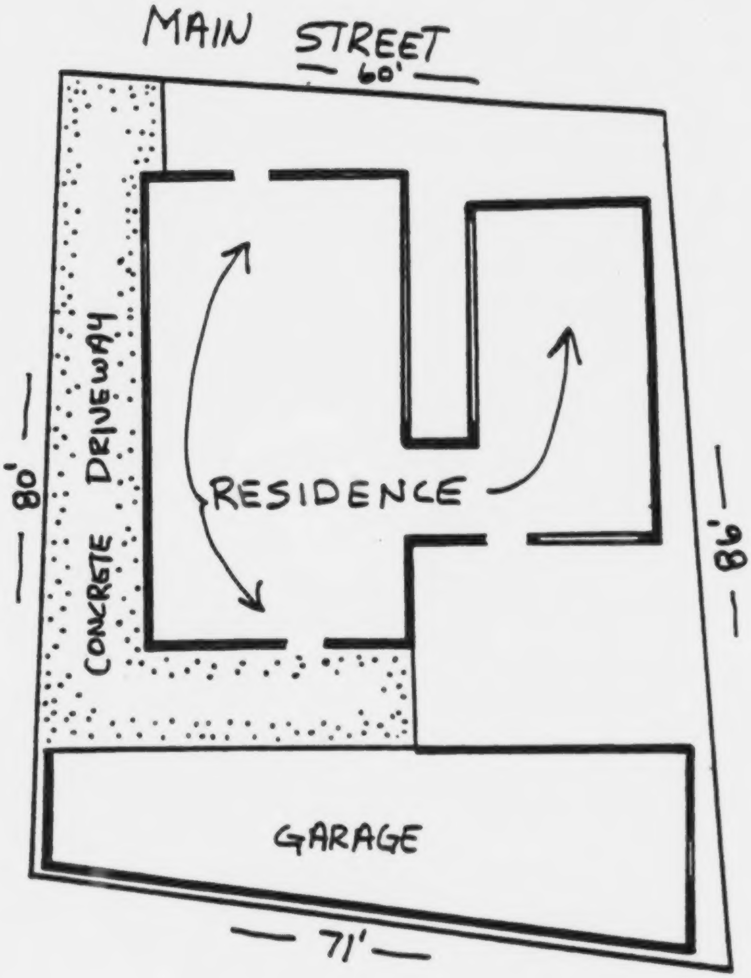
On the sample property below, use the cut-out landscape design symbols to create a design that enhances the residence as seen from the street.

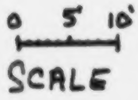


Sample Property 'J'

Japanese Style Landscape

On the sample property below, use the cut-out landscape design symbols to create a design that enhances the view of the property as seen from inside the residence.





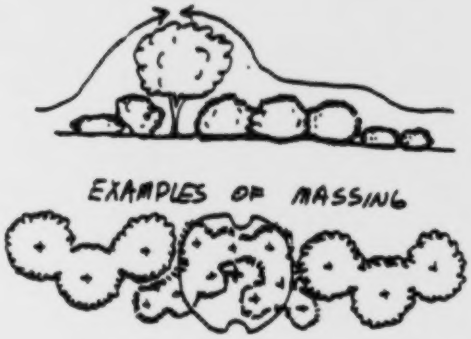
28

Six Art Principles Used in Landscape Design

Landscape design is an art form guided by several basic principles. The following six principles of design (and there are many more) have been applied by artists throughout the world for many centuries.

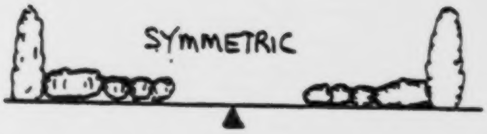
Simplicity

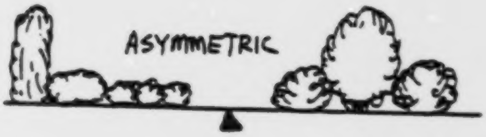
"Keep it simple!" is perhaps the most important principle of design. Repetition is one of the easiest ways to reduce a landscapes complexity. Another is by massing different plants together so they function as a single unit. Massing can bring a sense of unity to the landscape since individual plants do not have to compete with one another for attention. Simplicity does not mean boring, it means being natural.



Balance

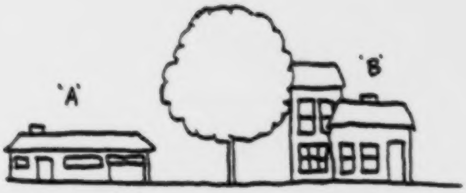
Balance refers to the visual equilibrium of the landscape. Two types of balance exist: symmetric and asymmetric. In symmetric balance, one side of the landscape is exactly equal to the other. This type of balance creates a formal feeling. Asymmetric balance creates the same amount of visual interest on both sides of the landscape, but not in exact duplication. Asymmetric balance promotes a more natural feeling in the landscape.





Proportion

Proportion is a comparison of the size relationship of different elements in the landscape. In residential design, proportion can relate to the size relationship among the residence, its surroundings, or site area. It may also relate to the size relationship of trees and shrubs used in the landscape. Element must be in the proper size relationship with each other and with the person using the landscape.

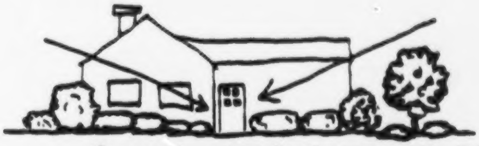


TREE IS TOO LARGE FOR HOUSE 'A' BUT IN PROPER PROPORTION WITH HOUSE 'B'.

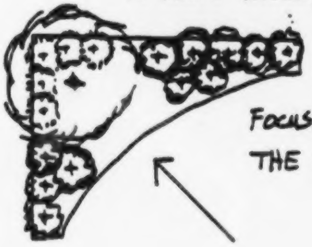
Six Art Principles Used in Landscape Design Cont.

Focalization

The principle of focalization is based on the fact that when the human eye views a scene, it is immediately attracted to the most dominant feature, then gradually begins to take notice of other less dominant elements. The feature which first attracts the eye is known as the focal point. It may draw attention by shape, color, size, texture, sound, or motion. Examples of landscape focal points include building features, trees, statues, fountains, and flowers. A proper design has only one focal point per view.



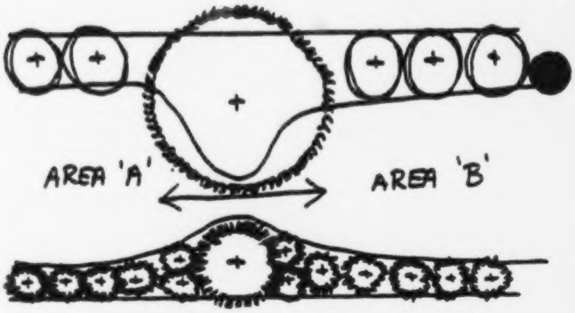
FOCUSING ATTENTION TOWARDS THE HOME...



FOCUSING ATTENTION TOWARDS THE PROPERTY BOUNDARY...

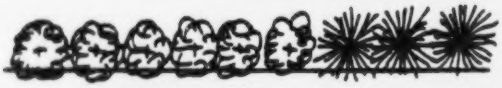
Rhythm

Rhythm is the establishment of physical and visual patterns of movement in the landscape. When walking from one area to another, viewers should have the feeling of being transported by the landscape. Planting beds that flow from one area to another demonstrate the principle of rhythm.

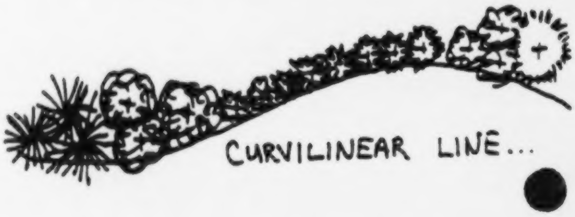


Line

Line in a design also creates the feeling of both visual and physical movement. It defines areas and forms by delineating edges and shapes. Lines that are straight create feelings of formality while curvilinear lines bring a natural feeling to the landscape. Intersecting lines create points of hesitation. Repetition of the line found in the property's edge or defining the residence provides a more unified design.



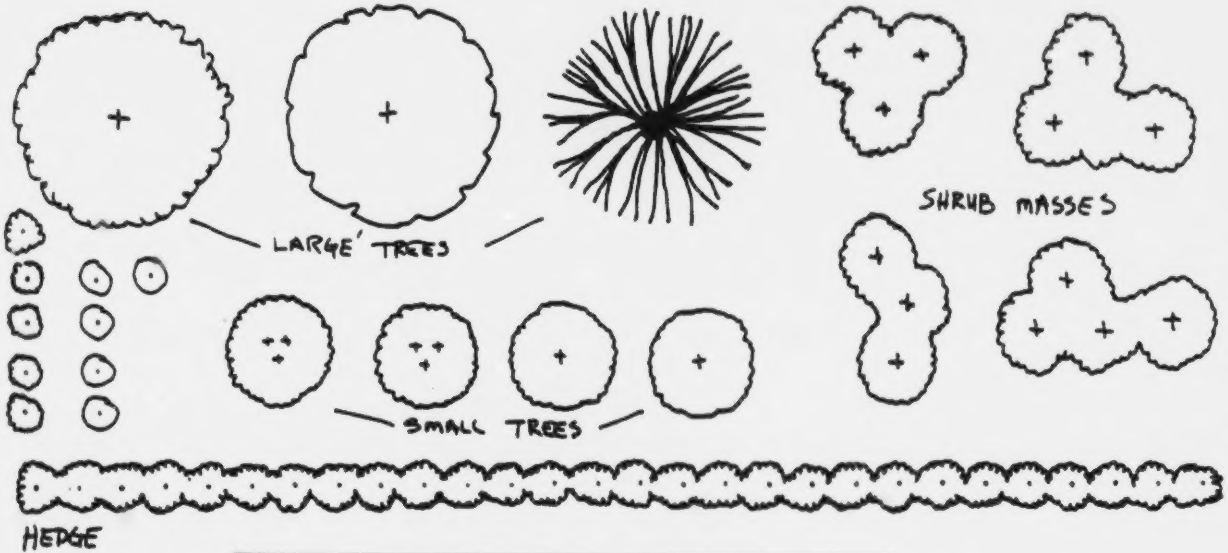
LINEAR LINE...



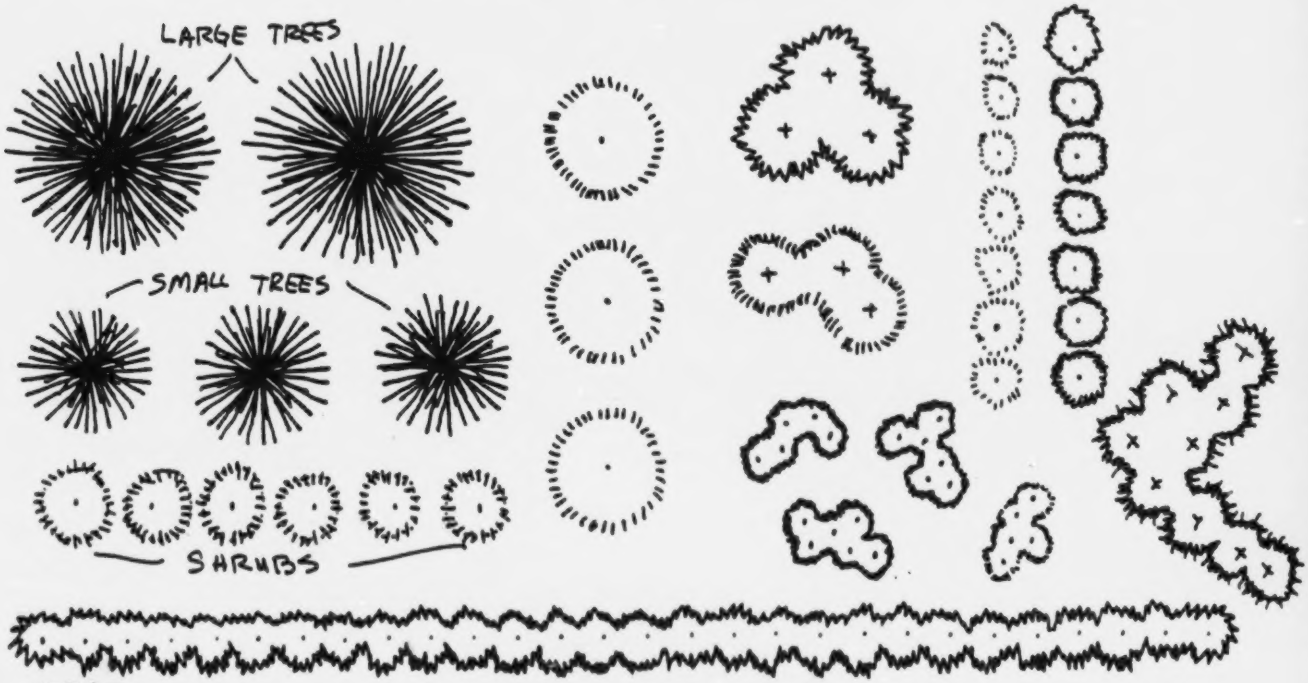
CURVILINEAR LINE...

LANDSCAPE DESIGN SYMBOLS

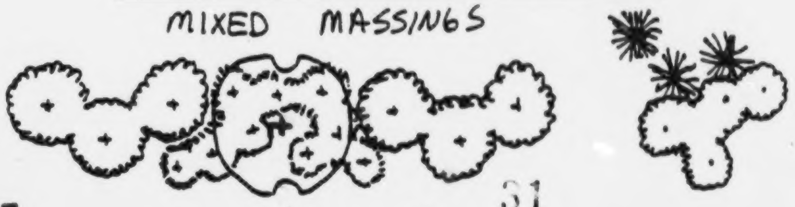
DECIDUOUS SYMBOLS



EVERGREEN SYMBOLS



MIXED MASSINGS



BEST COPY AVAILABLE

A Student Activity for
Infusing an International Perspective
into an
Aquaculture Unit or
Related Units

Aquaculture: International Implications

Purpose

The main purpose of this activity is to help students understand the history and development of aquaculture as well as its implications to international trade and development.

Introduction to Aquaculture

Plan of Action

Student Performance Objectives

1. Explain the history and development of the aquaculture industry.
2. Explain the reasons the aquaculture industry is expected to grow in the 1990s.
3. Identify leading countries in fishery product landings, exports, and imports.
4. Identify leading U.S. aquaculture industries and those with potential for further development.

Procedures for Instruction

1. Stimulate the interest of students in learning about the aquaculture industry. Possibilities include a field trip to a local aquaculture production facility, a visit to a local aquaculture production facility, a visit to a local pet shop to investigate the nature of the recreational fish market, or the planning of an aquaculture project for the school laboratory or for student agricultural experience programs.

2. Provide information to students using the fact sheet and the overhead transparency masters which are provided.

3. Work with students to develop a list of questions about the aquaculture industry. Have students decide about the best way to find answers to the questions. Help them to organize a way to learn the answers.

4. Involve a resource person to share with the students the process of producing and marketing aquaculture products.

5. Have students identify the countries on a world map that consume the most fish products. Question students about the reasons people in these countries might consume so much fish.

6. Have students identify, on the map, the leading countries in fish landings and exports. What characteristics do these countries have in common?

7. Divide the class into groups. Have each group select and develop a plan to produce and market an aquacultural product relevant to the community.

Materials Needed for Instruction

1. Fact sheet - Introduction to Aquaculture
2. Overhead transparencies (made from attached masters)
3. World map
4. References on aquaculture production and marketing

Evaluation Activities and/or Questions:

1. Assign point values to completion of the crossword puzzle.

2. Assign point values to the group plan to produce and market an aquaculture product relevant to the local community.

3. Test students to assess their accomplishment of the objectives of this student activity.

References:

Brown, E.E. (1983). World fish farming: Cultivation and economics, 2nd ed. Westport, Connecticut: AVI Publishing Company, Inc.

U.S. Department of Agriculture (1989, September). Aquaculture: Situation and outlook report, AQUA-3. Washington, D.C.: U.S. Department of Agriculture, Economic Research Service.

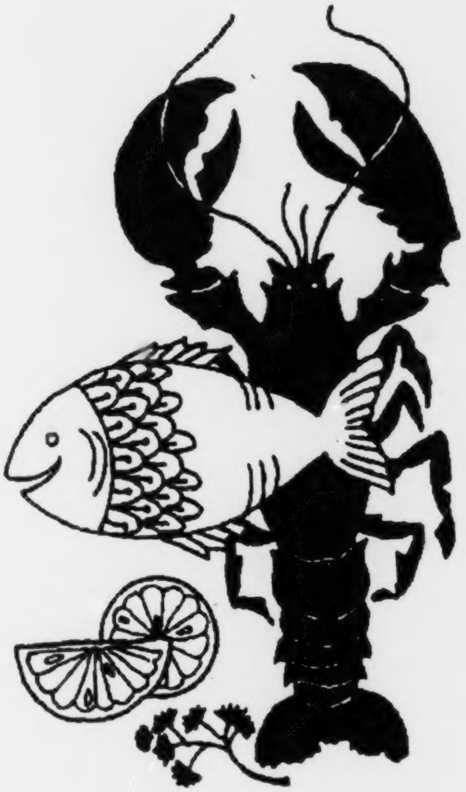
U.S. Department of Agriculture (1990, March). Aquaculture: Situation and outlook report, AQUA-4. Washington, D.C.: U.S. Department of Agriculture, Economic Research Service.

Fact Sheet - Introduction to Aquaculture

1. There are records of fish raised in ponds during the Chou Dynasty in China in about 1130 B.C. A book, Fish Culture Classic, was written by Fan Li in China in about 460 B.C. Egyptian bas-reliefs show fish being raised in ponds. However, most of the commercial development of aquaculture has occurred in the last 150 years.
2. World per capita fish and shellfish consumption for human food averages about 27 pounds. People in Iceland average 195 lbs. consumption per person; Japan, 164 lbs.; Norway, 101 lbs.; and Hong Kong, 99 lbs.
3. Aquaculture in the United States is a young and growing industry.
4. The 1990s should be an important decade for growth in the aquaculture industry.
5. Knowledge learned through research and development is now being translated into economically viable business operations.
6. The world is eating more aquaculture products due to increasing population and changes in diet.
7. The amount of wild catch from the oceans is likely to decline.
8. The growing of aquacultural products under closely monitored conditions should increase their appeal to consumers' growing concern about pollution in both oceans and fresh water.
9. The three largest countries in terms of number of fish landings are Japan, the USSR, and China. These three countries account for over one-third of the world's commercial catch. The U.S., Chile, and Peru are the next three with about 15% of the world's total catch.
10. Canada is the world's largest fishery products exporter, with the U.S., Denmark, Korea, and Norway as the next four in amount of exports. Japan has a large trade deficit (7-8 billion dollars) in fishery products.
11. In the U.S., salmon and shrimp are the two largest aquacultural industries but the catfish industry is under the most rapid development. Catfish production increased 636% in the 1980s.
12. In the U.S. most of the rainbow trout production is in Idaho because of the adequate supply of water of the proper temperature. Most of the production of channel catfish is in the Southeast U.S. and California.
13. Striped bass and hybrid striped bass are among the newest species in aquaculture and have the potential to expand greatly.
14. Tilapia production is expected to increase because the fish can use a wide variety of vegetable products as feed. The primary market for tilapia has been to the Asian community rather than in the U.S.

15. In Japan, the more highly valued species are cultured. The six major species of fresh water fish are (in rank order): (1) Japanese eel, (2) common carp, (3) rainbow trout, (4) ayu or sweetfish, (5) tilapia, and (6) crucian carp. In addition 11 species of marine fish and one species of shrimp are cultured in Japan. Marine fish are preferred over fresh water fish, except for eels, in the Japanese diet. Eel is considered to be a gourmet fish. Large quantities of eel are imported to Japan from Taiwan.

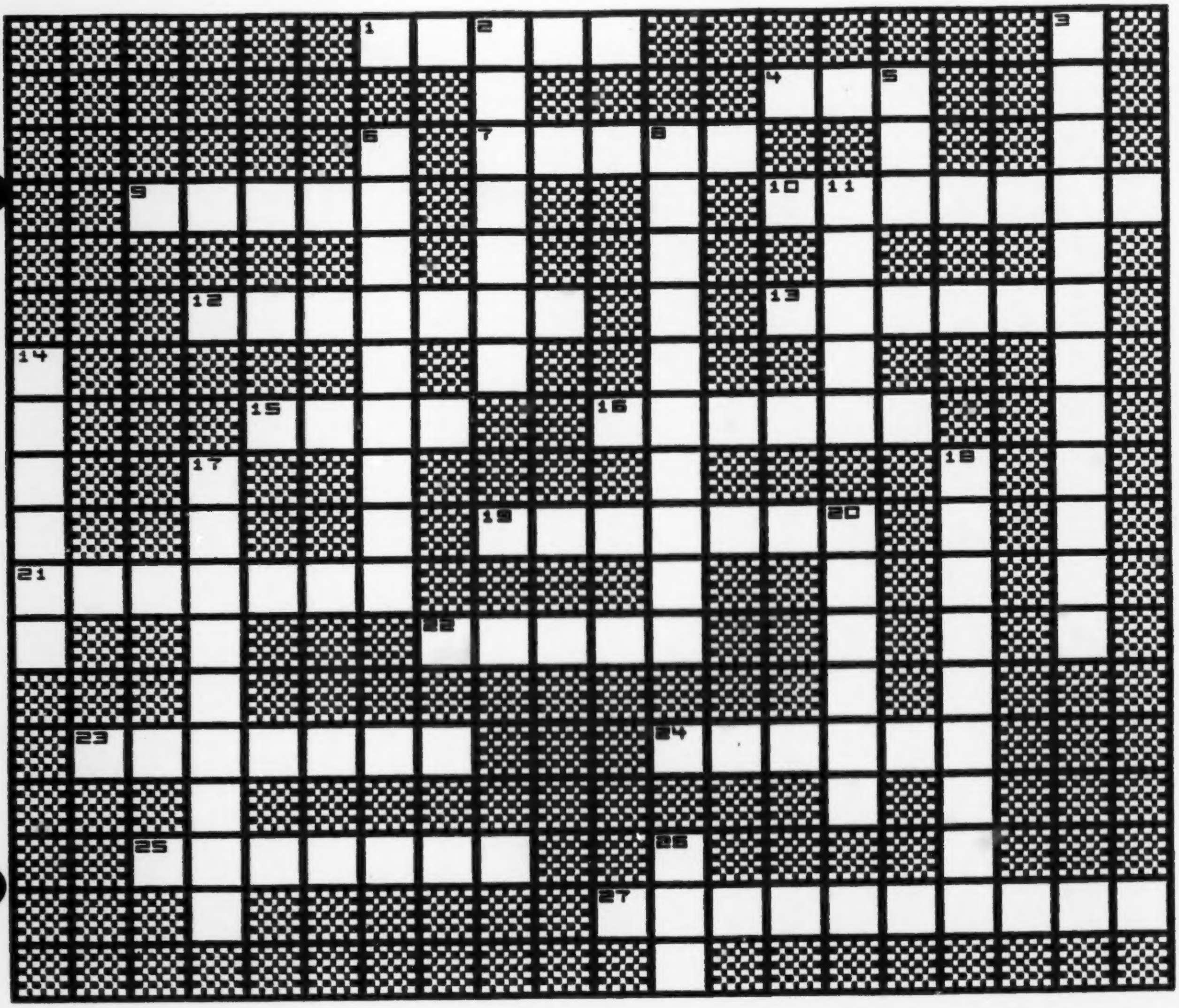
16. In many countries of the world, there is a strong recreational fish production industry. Fish are produced for recreational fee fishing ponds and streams, the pet fish market, and decorative ponds. In Japan, goldfish production is a profitable enterprise. Fish were sold domestically and in Asia and Europe. Landscape gardens often use these fish to add interest and color.



Aquaculture:

-The Crossword Puzzle-

FISH

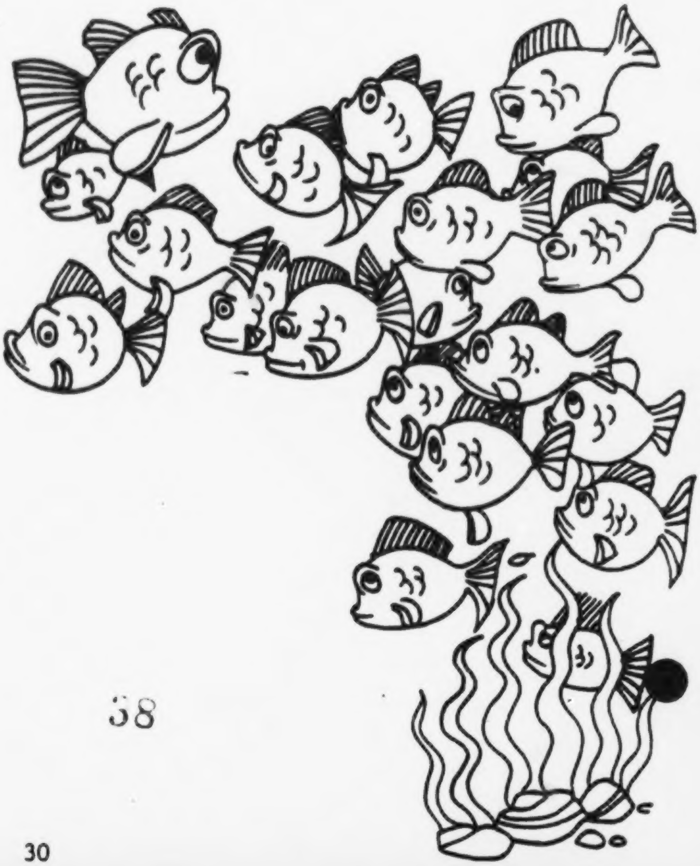


ACROSS CLUES

1. Country in which there are earliest records of fish raised in ponds
4. Charge made for recreational fishing
7. Early bas reliefs in this country show fish being raised in ponds
9. A country with the largest number of fish landings
10. A fish whose numbers are expected to increase because of the diet of the fish
12. The aquaculture industry in the U.S. is ______
13. Source of fish preferred in the Japanese diet
15. Changes in ____ are increasing demand for aquaculture products
16. One of the largest aquaculture industry products in the U.S.
19. Japan has a large trade _______ in fishery products
21. The amount of wild fish catch from the oceans is expected to _______
22. The primary market for tilapia is the _____ community
23. Species of fish under the most rapid aquaculture industry development in the U.S.
24. 1990s will be an important _____ for growth in the aquaculture industry
25. Eel is a _______ fish in Japan
27. Fish grown for other than food

DOWN CLUES

2. Country with the largest per capita fish consumption
3. Species believe to have potential for expansion in the aquaculture industry
5. Major species of freshwater fish cultured in Japan
6. What was learned in research and is being used to develop business operations
8. As this increases demand for seafood also increases
11. State with the largest trout farming industry
14. Country which is the largest fishery products exporter
17. As this gets worse, people may have more confidence in fish produced by aquaculture
18. Area of the U.S. which produces the most channel catfish
20. Country which exports the most eel to Japan
26. A type of recreational fish market



Aquaculture:

-The Crossword Puzzle-

WORD LIST: FISH

- ASIAN
- CATFISH
- CANADA
- CHINA
- DEFICIT
- DECLINE
- DECADE
- DIET
- EEL
- EGYPT
- FEE
- GOURMET
- GROWING
- ICELAND
- IDAHO
- JAPAN
- KNOWLEDGE
- MARINE
- PET
- POPULATION
- POLLUTION
- RECREATION
- SALMON
- SOUTHEAST
- STRIPED-BASS
- TAIWAN
- TILAPIA

ANSWERS: FISH

```
      CHINA       S
        C    FEE  T
      K EGYPT  E  R
  JAPAN L  O TILAPIA
      O A  P  D   P
   GROWING U MARINE
C     L D  L  H   D
A   DIET  SALMON  -
N  P  D    T    S B
A  O  G DEFICIT O A
DECLINE    O  A U S
A  L   ASIAN  I T S
   U          W H
 CATFISH   DECADE
   I          N A
  GOURMET  P    S
   N      RECREATION
           T
```

Development of Aquaculture

1. Fish raised in ponds during Chou Dynasty in China about 1130 B.C.
2. Fish Culture Classic was a book written by Fan Li in China about 460 B.C.
3. Egyptian bas reliefs show fish being raised in ponds.
4. Most commercial development of aquaculture in last 150 years.

Transparency #1

Fish and Shellfish Consumption

Countries with highest annual human per capita consumption:

Country	Lbs. Consumed
Iceland	195
Japan	164
Norway	101
Hong Kong	99
*World Average	27

Transparency #2

Aquaculture Trends

1. Aquaculture in the U.S. is a young and growing industry.
2. The 1990s should be an important decade for growth in the aquaculture industry.
3. Knowledge learned through research and development is now being translated into economically viable business operations.

Transparency #3

4. The world is eating more aquaculture products due to increasing population and changes in diet.

5. The amount of wild catch from the oceans is likely to decline.

6. Consumers concerned about eating fish from polluted ocean and freshwater sources will find food from aquaculture environments to be an attractive alternative.

Transparency #4

Numbers of Fish Landings Rank by Country

1. Japan
2. USSR
3. China
4. United States
5. Chile
6. Peru

Transparency #5

Fishery Products Exports
Rank by Country

1. Canada
2. United States
3. Denmark
4. Korea
5. Norway

* Japan has the largest trade deficit in fishery products (7 - 8 billion dollars)

United States Aquaculture Industry

1. Salmon and shrimp are the two largest industries.

2. Catfish production is increasing the most rapidly (636% growth in the 1980s)

3. Idaho is the leading state in rainbow trout production because of the adequate supply of water of the proper temperature.

Transparency #7

4. Striped bass and hybrid striped bass are among the newest species in aquaculture in the U.S. and have the potential to expand greatly.

5. Tilapia production is expected to increase because the fish can use a wide variety of vegetable products as feed. The primary market for tilapia is in the Asian community.

Japanese Aquaculture Industry

1. The more highly valued species are cultured.
2. Eleven species of marine fish and one species of shrimp are cultured.
3. The six major species of cultured fresh-water fish (in rank order are:
    a. Japanese eel
    b. common carp
    c. rainbow trout
    d. ayu or sweetfish
    e. tilapia
    f. crucian carp

4. Marine fish are preferred over freshwater fish in the Japanese diet, except for eels (which are freshwater). Eel is considered to be a gourmet fish. Large quantities of eel are imported from Taiwan to Japan.

Transparency #10

Recreational Fish Aquaculture

1. In many countries of the world there is a strong recreational fish industry.

2. Fish are produced for:
    a. recreational fee fishing in streams and ponds
    b. the pet fish market
    c. decorative ponds

3. In Japan, goldfish production is a profitable enterprise. Fish are sold domestically and exported to Europe and the rest of Asia.

4. Landscape gardens in Japan often use goldfish to add interest and color.

A Student Activity for
Infusing an International Perspective
into an
Aquaculture Unit or
Related Units

The World of Aquaculture

Purpose

The main purpose of this activity is to help students acquire background knowledge relative to the significance of aquaculture to the economics of the world.

64

The World of Aquaculture

Plan of Action

Student Performance Objectives:

1. Distinguish the difference between aquaculture and fishing.
2. List and explain two reasons why aquaculture is becoming increasingly important in the world.
3. List the requirements of a species of fish produced in an aquaculture system somewhere in the world.

Procedures for Instruction:

1. Secure several references containing information about aquaculture and species produced in aquaculture systems. It is suggested that you contact the Extension Service in your state and ask about publications on aquaculture.

2. Duplicate the Introduction to Aquaculture Handout and Aquaculture Worksheet.

3. Distribute the handout and ask students to read it.

4. Discuss the contents of the handout with the class. Emphasize the importance of aquaculture and the fact that aquaculture is a part of agriculture.

5. Divide students into groups of two and assign each group a species of fish that is produced in an aquaculture system. If crustaceans are cultured in your area you may want to add them to the list.

6. Ask each group to research their assigned fish using the resource materials and fill out one copy of the Worksheet.

7. Make a transparency of each worksheet.

8. Ask each group to share its findings with the class using their transparency. Encourage the class members to discuss the findings and ask questions of each other.

Materials Needed for Instruction:

1. Reference materials that contain information about aquaculture.
2. Machine and supplies to make transparences.
3. Overhead projector.

Evaluation Activities and/or Questions:

1. Take up a copy of the Worksheet from each group.
2. Score the worksheet as to its completeness. The two students in the group should each receive the same score.

References:

1. Bardach, John E., John Ryther, and William McLarney. (1972) Aquaculture: The Farming and Husbandry of Freshwater and Marine Organisms Wiley-Interscience: New York.

2. Barnabe, Gilbert (1990) Aquaculture Market Cross House, Cooper St. Chichester, West Sussex, P019 1EB, England.

3. Belusz, Larry (1987) Fish Farming Techniques. Instructional Materials Laboratory, University of Missouri - Columbia, 2316 Industrial Dr., Columbia, MO 65202. (1-800-392-7217) (Publication No. 104851-1).

4. Lannan, James E., Oneal Smitherman, and George Tchobanoglous (1986) Principles and Practices of Pond Aquaculture Oregon State University Press: Corvallis, Oregon.

5. Lee, Jasper S. (1991) Commercial Catfish Farming 3rd. Edition. The Interstate Printers and Publishers, Inc., P.O. Box 50, Danville, IL 61834-0050. 1-800-843-4774 (Textbook).

6. Walker, Susan S. and Dan Fulkerson (1990) Aquaculture The Mid-America Vocational Curriculum Consortium, Inc., 1500 W. 7th, Stillwater, OK 74074-4364. 1-800-654-3988 (Curriculum Guide).

7. Watson, Craig (1989) Aquaculture and The Aquarium Florida Cooperative Extension Service. Publications Distribution Center, IFAS Building 664, University of Florida, Gainesville, FL 32611. (Circular No. 848).

Fact Sheet

Introduction to Aquaculture

What is Aquaculture?

The term "aquaculture" was coined from two Latin words: "aqua" which means water and "culture" which means to till, cultivate, or grow. So the word aquaculture means to grow animals or plants in water. This activity will focus on one aspect of aquaculture: fish raised for food.

History of Aquaculture:

No one is certain when aquaculture began. There are paintings in Egyptian tombs which show fish (probably for ornamental purposes) in man-made pools. There are records that indicate that fish culture for food began in China about 2000 B.C. Carp have been raised in China for thousands of years for both ornamental and food purposes. In Europe, fish and eels were caught in streams during the summer and fall and were placed in ponds for use as food in the winter.

Interest in aquaculture has grown in recent years. Seafood and freshwater fish have become very popular in many parts of the world. Fish are excellent sources of high quality protein. To meet the nutritional demands of a growing world population there has been an increase in commercial fishing. The risk of overfishing some species of fish is very real. To meet the increased demand for fish there is a need to expand aquaculture in the world. There are more than 20,000 species of fish in the world, but only about 100 species have been domesticated and are cultured for food.

The majority of aquaculture systems are found in Asia. About 30% of the fish eaten in India and China are also produced in aquaculture systems; however, only about 2% of the fish eaten in the United States come from aquaculture. In Japan, algae and shellfish are often grown in saltwater. They also produce large numbers of freshwater eels. In Israel about 50% of the fish eaten are from aquaculture systems.

What is involved in Aquaculture?

Just as livestock producers must know the biological needs of cattle, hogs, or sheep -- fish producers must also be thoroughly familiar with the biological requirements of the fish they are raising. Some of the important aspects include: water quality, reproduction, feeding, and culture systems.

Water Quality: The most important factor in the culture of fish is water. Some fish grow in freshwater, some in saltwater, and some in brackish water. The water requirements for various fish vary greatly. All fish are cold-blooded animals, but they can be classified into two major groups according to their temperature requirements: warm water (70 to 90 F) examples: catfish, tilapia, carp, and crayfish; cold water (65 F or below) examples: trout and salmon. Aquaculturists monitor dissolved oxygen levels, pH, water hardness, turbidity, toxins, and ammonia/nitrite/nitrate in the water.

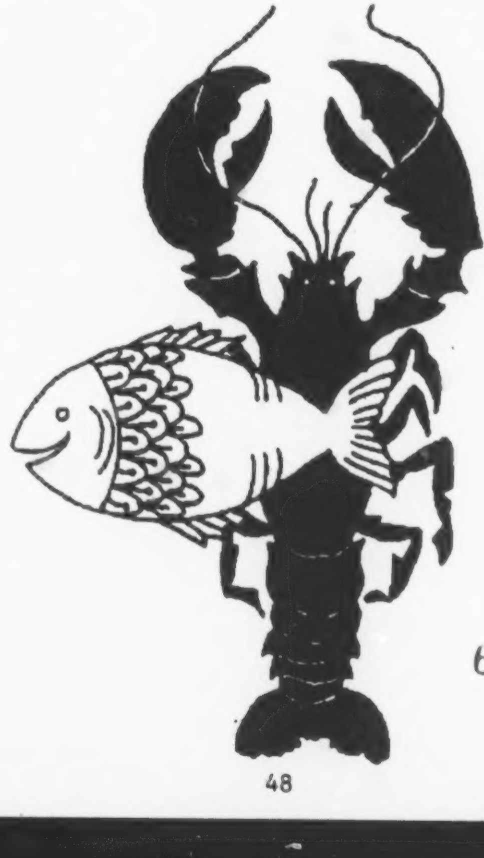
Reproduction: Fish are sometimes divided into groups by the way they reproduce. There are: (1) **Live Bearers**, these fish give birth to live fish; (2) **Mouth Brooders**, one of the parent fish carry the eggs and later the baby fish in its mouth; (3) **Bubble-Nest Builders**, one of the parent fish makes a nest of bubbles; (4) **Egg Layers**, these fish lay eggs which stick to objects such as sticks or they may make nests; and (5) **Egg Scatterers**, these fish lay their eggs and let them scatter over the bottom.

Feeding: Some small or larval size fish eat phytoplankton (very small aquatic plants). Producers may use fertilizer to help the phytoplankton to grow. When some fish are at the fry stage they may eat phytoplankton or very small animals known as zooplankton. Some producers grow zooplankton from eggs to feed their fish -- i.e. brine shrimp. As the fish grows older it is called a fingerling (3-5 inches long). These fish may eat prepared rations until they are harvested for food.

Culture systems: Fish are grown in a variety of ways depending upon the species. They are grown in earthen ponds, tanks, raceways, and cages.

Conclusions:

As you can see, aquaculture is an increasingly important area of agriculture. Seafood may be the last item that remains in a grocery store that is still caught in the wild. With more and more people all over the world wanting to eat fish and other related products, it is necessary to grow fish, crustaceans, and plants that live in water and to become less dependent upon fish caught in the wild.



Aquaculture Worksheet

LEARNING ABOUT FISH THAT ARE FARMED

Directions: Select a fish species that is grown in aquaculture systems somewhere in the world. Read about this species in the references provided by your teacher. Answer the following questions about the species. Report your findings to the class.

1. Common Name of Species: ______________________________
2. Scientific Name of Species: ______________________________
3. In what areas of the world are this fish grown for food?

   ____

4. What are the water requirements for this fish?

   ____

   ____

   ____

5. How does this fish reproduce?

   ____

   ____

6. How is this fish fed and what does it eat?

   ____

   ____

7. Describe the culture system of this fish.

   ____

   ____

8. Is this fish grown in your state? Why or why not?

   ____

   ____

A Student Activity for
Infusing an International Perspective
into an
Aquaculture Unit or
Related Units

Aquaculture:
Identifying Export Partners

Purpose

The main purpose of this activity is to help students identify what countries supply fish, shellfish and fish products to the United States consumer. Additionally, students will become aware of the cultural practices involved in the production of fish and shell fish.

Aquaculture -- Identifying Export Partners

Plan of Action

Student Performance Objectives:

1. Identify ten species of fish or shellfish which are imported to the United States.
2. Identify ten countries from which the USA imports fish or shellfish.
3. Locate countries which export fish or shellfish to the USA.
4. Locate USA cities which are ports of entry for imported fish, shellfish and fish products.
5. Identify transportation systems available to move the product to market.
6. List three cultural practices required to produce five species of fish or shellfish.
7. List ten careers associated with the importation and exportation of fish, shellfish and fish products.

Procedures for Instruction:

1. Share introductory information on USA's imports and exports of fish, shellfish and fish products. (Use Transparencies #1, #2, and #3)

2. Distribute research project worksheet.

3. Provide instructions, identify outcomes.
    a. Species - list common name.
    b. Description - special characteristic of the species. What is its normal production cycle? What time of year is this specie marketed? Why is this species imported to the USA?
    c. Country or countries of origin - list as many as possible.
    d. Climatic conditions - warm weather, cool, etc.
    e. Water conditions - fresh, saltwater and deep sea, shoreline, etc.

4. Distribute list of research resources, assign out of class work. (Student Worksheet)

5. Provide time for students to complete research, have students collect data on a minimum of ten species.

6. Distribute world maps and have students identify production centers of species they researched.

7. Distribute USA maps and have students locate five ports of entry (a mix of east and west states).

8. (Optional) Distribute a state map and have students identify ports of entry of fish, shellfish and fish products or identify how fresh fish is distributed within the state.

9. Given the research material, have students list the possible methods of transportation available to move the product from production centers to ports of entry. Be sure to emphasize climatic conditions of both production centers and ports of entry.

10. Through class discussion, analyze the data to determine what species could be locally produced and marketed.

11. (Optional) What countries could the USA export to if we could produce more of the species identified?

Materials Needed for Instruction:

1. Reference materials.
2. Worksheet.
3. Overheads.
4. World Map.
5. United States Map.
6. Optional - State Map.

Evaluation Activities and/or Questions:

1. Completion of research materials listing ten species of fish or shellfish and ten export partners, with 100% accuracy.
2. Proper location of production centers on the world map with 100% accuracy.
3. Proper location of ports of entry on the United States map with 100% accuracy.
4. Proper listing of three cultural practices required to produce five species of fish or shellfish.
5. Proper listing of ten careers associated with the importation and exportation of fish, shellfish and fish products.
6. Active participation in class discussion.

References:

1. Aquaculture, Studies in Biology Number 106, P.J. Reay, University Park Press, Baltimore, MD, 1979.

2. "Aquaculture and Capture Fisheries: Impact on U.S. Seafood Markets," Report prepared pursant to the National Aquaculture Improvement Act of 1985 (P.L.99-198), U.S. Dept. of Commerce, April 1988.

3. Aquaculture in the United States - Constraints and Opportunities, The National Research Council, National Academy of Sciences, Washington, D.C., 1978.

4. Aquaculture -- Opportunities for Appalachia, Conference Report, Appalachian Regional Commission, Washington, D.C., January 1990.

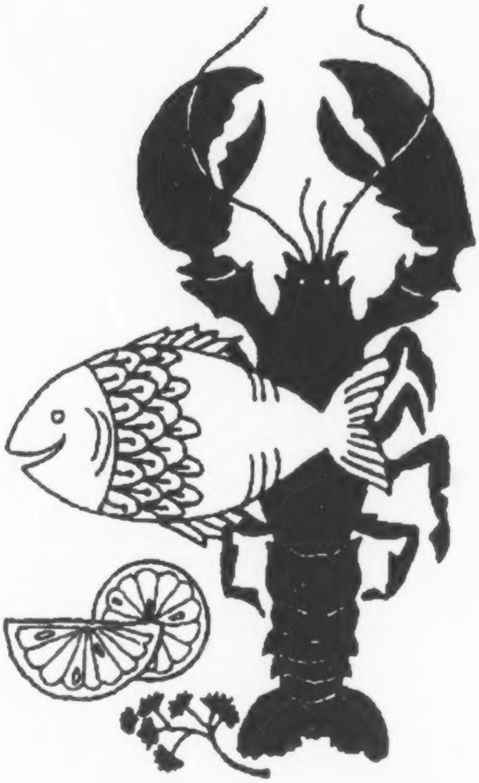
5. Aquaculture -- Outlooks and Situations, U.S. Dept. of Agriculture, Economics and Statistics Service, April 8, 1981.

6. Farming On the Edge of the Sea, E.S. Iversen, Fishing News Book Ltd., England, 1976.

7. Flow-Through and Recirculation Systems, EIFAC Technical Paper, Food and Agriculture Organizations of the United Nations, Rome, 1986.

Special Resources:

1. Annual subscriptions available for Situation and Outlook Reports: Aquaculture, from ERS-NASS, P.O. Box 1608, Rockville, MD 20849-1608 or call 1-800-999-6779 (8:30 -5:00 Eastern Time).
2. A Reference Manual - State College High School Tilapia Culture System. The Pennsylvania State University, Dept. of Ag. & Ext. Ed., 106 Armsby Building, University Park, PA 16802. (Compiled by George Vahoviak)
3. Aquaculture Unit of Instruction, Penn State Agricultural Education Curriculum. The Pennsylvania State University Dept. of Ag. & Ext. Ed., 106 Armsby Building, University Park, PA 16802.

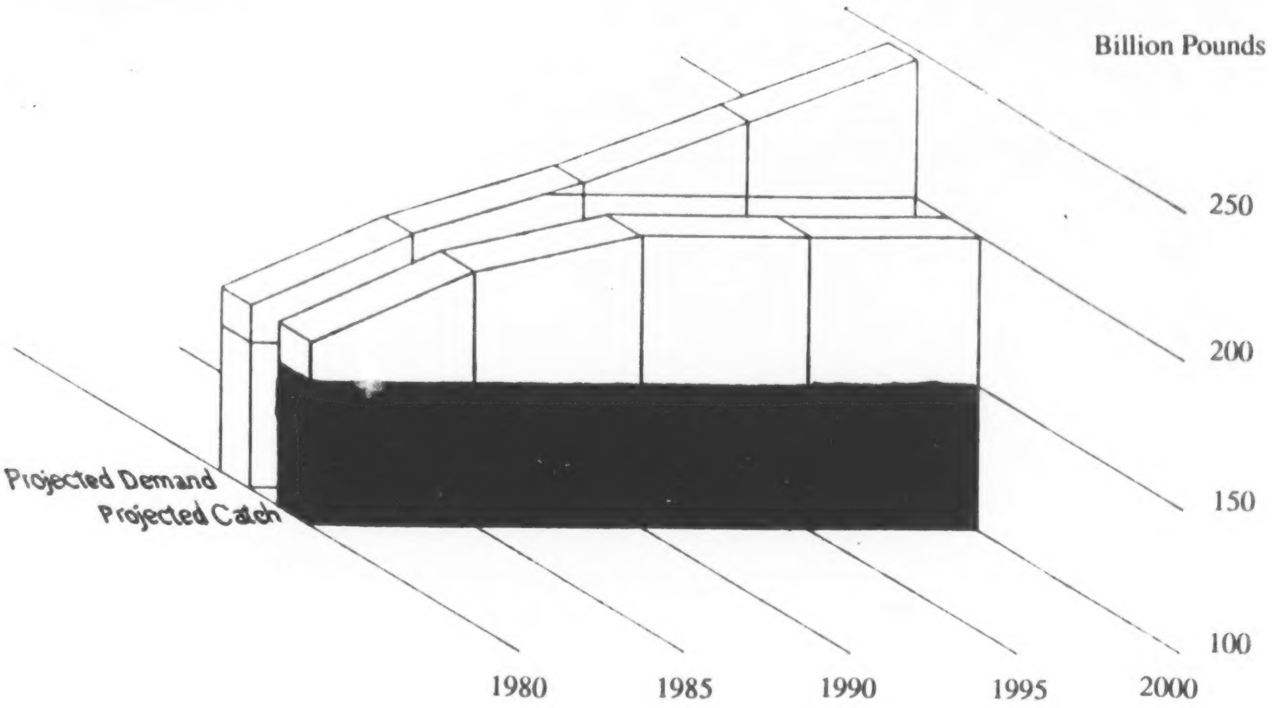


RESEARCH PROJECT
INFUSING INTERNATIONAL PERSPECTIVE INTO AQUACULTURE
INDENTIFYING EXPORT PARTNERS

SPECIES	DESCRIPTION	COUNTRY OF ORIGIN	CLIMATIC CONDITIONS	WATER CONDITIONS

USA - DEMAND

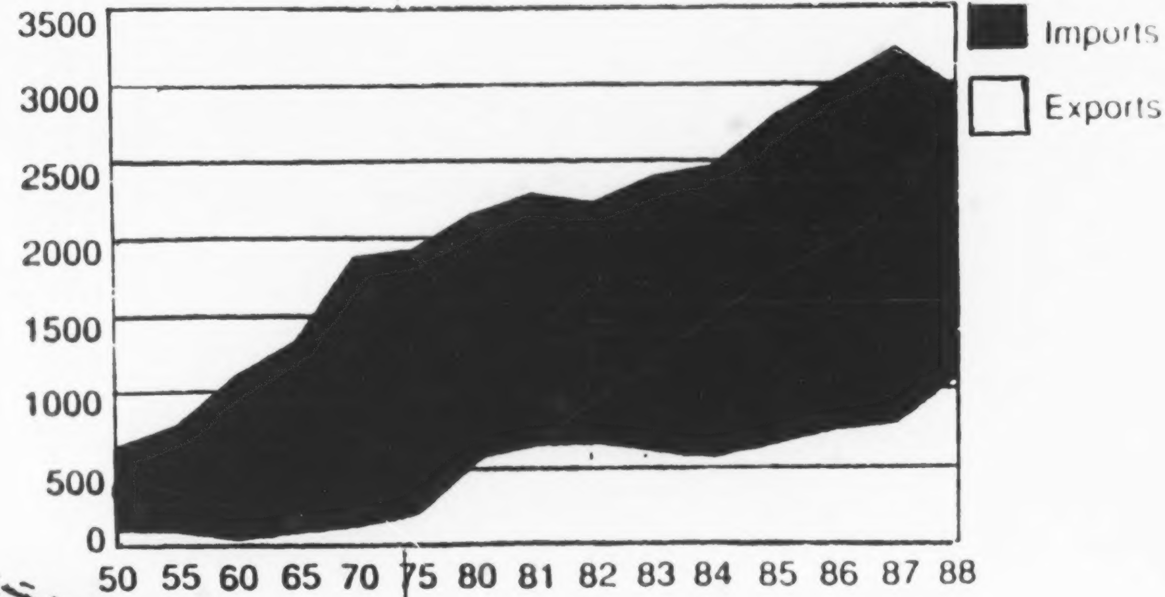
Seafood Demand Is Increasing



Source: USDA

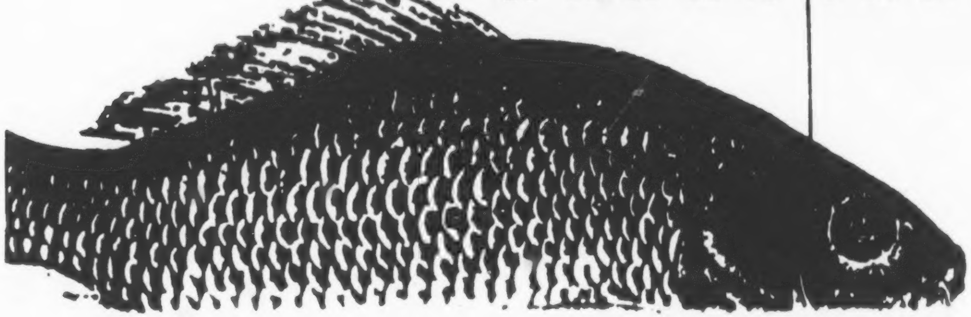
Transparency #1

Quantities of Imports/Exports



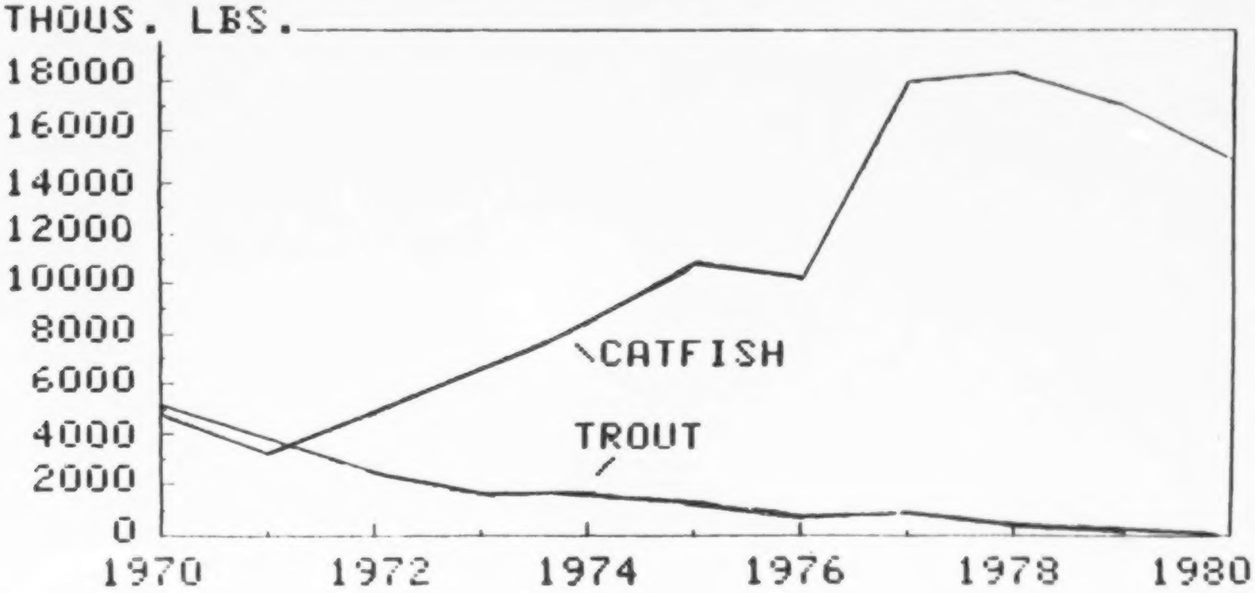
USA - Imports/Exports

Source: USDA



Transparency #2

U.S. IMPORTS OF CATFISH AND TROUT



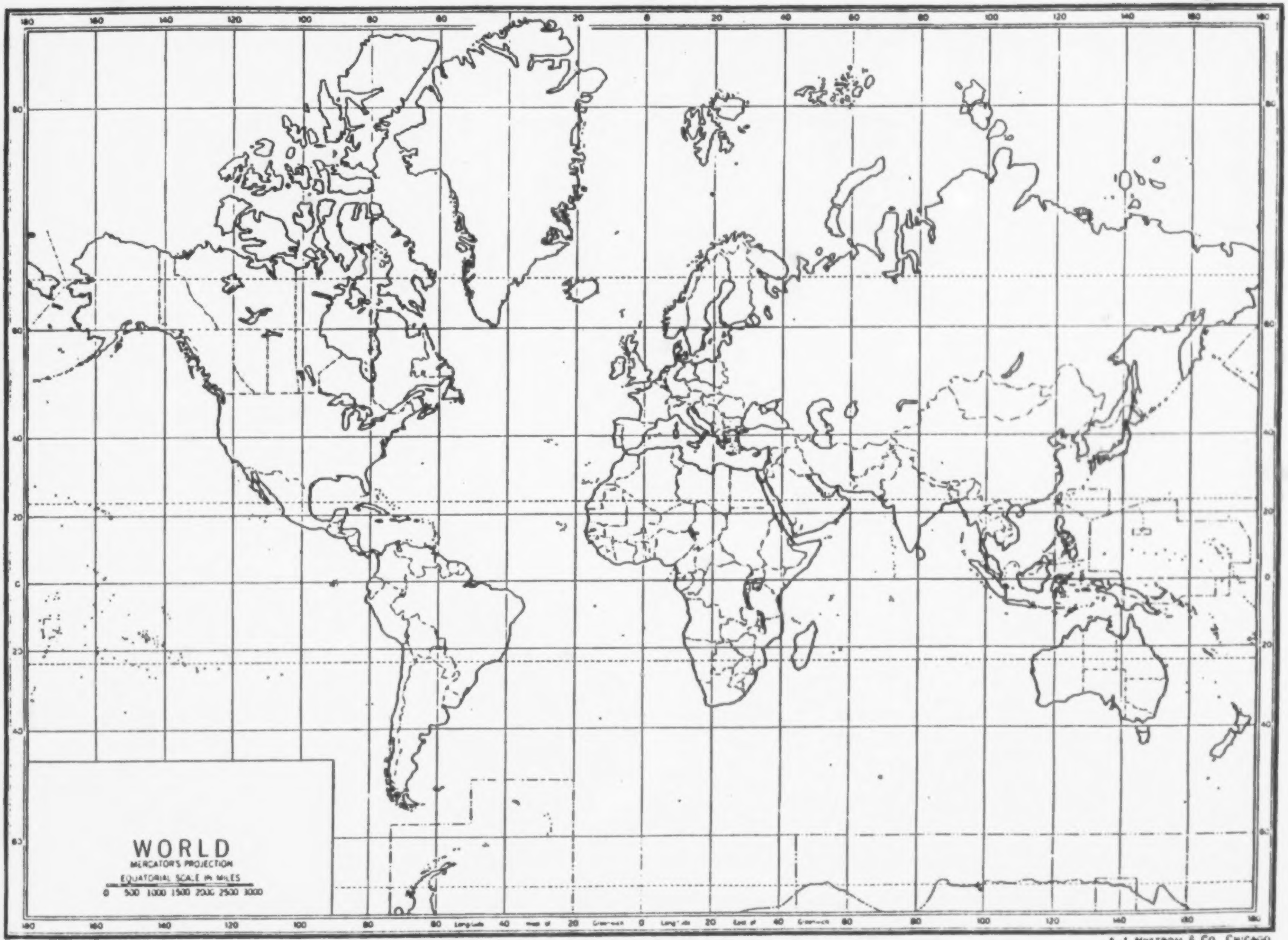
Source: USDA

Transparency #3

Table 1.—World. Farmed salmon production, by quantity, and country, 1980-1990.

COUNTRY	YEAR					
	1980	1982	1984	1986	1988	1990
	Metric Tons, Live Weight					
EUROPEAN COMMUNITY:						
France	30	40	50	200	200	200
Ireland	21	100	385	1,500	4,520	10,100
Spain	na	na	100	150	300	600
U.K.	598	2,136	3,912	10,338	15,000	25,000
EC, total	649	2,276	4,447	12,188	20,020	35,900
NON-EC EUROPE:						
Faroe Islands	na	60	116	1,370	4,000	9,000
Finland	na	30	94	100	100	100
Iceland	na	30	107	123	1,750	5,000
Norway	4,143	10,266	22,300	45,675	74,000	100,000
Sweden	na	10	20	300	800	1,000
Non-EC, total	4,143	10,396	22,637	47,568	81,450	115,100
NORTH AMERICA:						
Canada:						
Atlantic	6	140	200	400	1,600	5,000
Pacific	157	273	107	600	8,400	23,000
United States	392	691	1,248	1,399	3,831	7,720
N.America total	555	1,104	1,555	2,399	13,831	35,720
OTHER:						
Chile	na	184	109	1,144	7,522	17,000
Japan	1,855	2,122	5,049	8,000	15,000	19,000
New Zealand	na	5	10	500	1,500	3,000
Other, total	1,855	2,311	5,168	9,644	24,022	39,000
GRAND TOTAL	7,202	16,087	33,807	71,799	139,323	225,720

Source: U.S. Embassy reports based on various official statistical tables or reports. Some 1986 figures are preliminary estimates.



NYSTROM SERIES OF DESK MAPS
A. J. NYSTROM & CO., CHICAGO

A Student Activity for
Infusing an International Perspective
into a
Forestry Unit or
Natural Resources Unit

Forest Products from World Forests

Purpose

The main purpose of this activity is to help students become familiar with forest products and their uses around the world. The focus is on comparing forestry systems.

84

Forest Products from World Forests

Plan of Action

Student Performance Objectives:

1. Identify world forest types.
2. Identify world forest types by continent.
3. Identify various forest products from each continent.
4. Identify United States forest products by regions.
5. Identify forest products from their state or region that are exported to Japan and/or Europe.

Procedures for Instruction:

1. With the world map, forest products fact sheet, and colored pencils, identify the location of world forest types. Color the location of each major forest type.

2. Using the attached forest products fact sheet, list five forest products from each continent. Write the forest products names on the student activity sheet.

3. With the map of the United States showing the location of the major forest types color each forest type with colored pencils. Note the color of each forest type on the map.

4. Using the fact sheet and United States map of forest types list five forest products from the forest regions of the United States.

5. Name five forest products from the region or state that you live in that are traded with Japan and/or Europe.

Materials Needed for Instruction:

1. World map with major forest locations
2. United States map with major forest type locations
3. Colored pencils
4. Forest products fact sheet
5. Student activity sheet

Evaluation Activities and/or Questions

The student will complete all activities in the student activity sheet. The instructor will collect the answers to student activity sheet, world map, and United States map for grading.

References:

Elementary Forestry, B. McManus Collins and Fred M. White, Reston Publishing Company, Inc. Reston, Virginia.

Regional Silviculture of the United States, Edited by John W. Barrett, the Ronald Press Company, New York, New York.

Forests and Forestry, David A. Anderson and William A. Smith, The Interstate Printers and Publishers, Inc., Danville, Illinois.

Conserving American Resources, Ruben L. Parson, Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

Trees - Yearbook of Agriculture 1949, United States Department of Agriculture, U.S. Government Printing Office, Washington, D.C..

The World Book Encyclopedia - volume 7, Field Enterprises Educational Corporation, Chicago.

Hardwood Forest Products Opportunities Creating and Expanding Businesses, Editors - Stephen B. Jones and John A. Stanturf, Pennsylvania State University, College of Agriculture, School of Forest Resources, 1990.

Forest Products Fact Sheet

Forest Regions of the World

Softwood Forests

Softwood forests grow mostly in cold regions. Softwood forests consist mostly of conifers, or cone bearing trees, such as pine, spruce, and douglas fir. Common forest products from softwood forests include: lumber, wood chips, plywood, pole, building materials, naval stores, newsprint, paper, furniture, bark, crates, and firewood.

Hardwood Forests

Hardwood forests grow mainly in warm, moist regions with long growing seasons. Most hardwoods are deciduous tree. Trees that loose their leaves each year. Leading hardwoods include: oak, beech, birch, maple, poplar, gum, and hickory. Products from hardwood forests include: lumber, baseball bats, bowling pins, floors, furniture, veneers, charcoals, wood chips, bark, maple syrup, table tops, pallets, and paneling.

Tropical Rain Forests

Tropical rain forests grow near the equator in hot, wet regions that never have a dry season. Most tropical rain forests have broad leaves and the tree is never bare. Important tree species of the forests are mahogany, teak, cypress, and balsa. Products from tropical rain forests include: lumber, furniture, crates, baskets, firewood, oils, wood pulp, paper, building materials, and boxes.

Forest Regions of the United States

Western Forests: Include Rocky Mountain forests and the Pacific Coast forests.

Forest products produced from this region: lumber, plywood, wood chips, paper, building materials, poles, pilings, crates, baskets, and particle board.

Eastern Forests: Include northern forests, central hardwood forests, southern

Forest products produced from this region: lumber, plywood, particle board, paper, flooring, furniture, veneer, building materials, naval stores, baseball bats, table tops, bowling pins, maple syrup, railroad ties, and barrels.

Forest Products Activity Sheet

The student will complete the following activities for the forest products from world forests assignment.

Activity #1. Using the world map color in the three forest regions of the world. Use a different colored pencil for each region.

Activity #2. List below five forest products from the following world continents.

North America

____

____

____

____

____

South America

____

____

____

____

____

Europe

____

____

____

____

____

Asia

____

____

____

____

____

Africa

____

____

____

____

____

Australia

____

____

____

____

____

Activity #3. Using the map called forest region of the United States color each region. Use a different colored pencil for each region. The forest regions include: Rocky Mountain, Pacific Coast, Northern Forests, Central Hardwoods, Southern, and Tropical regions.

Activity #4. List below five forest products from the different forest regions of the United States.

Western Forests	**Eastern Forests**
____________________	____________________
____________________	____________________
____________________	____________________
____________________	____________________
____________________	____________________

Activity #5. With a knowledge of United States forest products by region, find the forest region you live in or a forest region close to where you live and identify five forest products that you think are exported to a foreign country. (Example Japan or Europe.)

Name of U.S. Forest Region - ____________________________

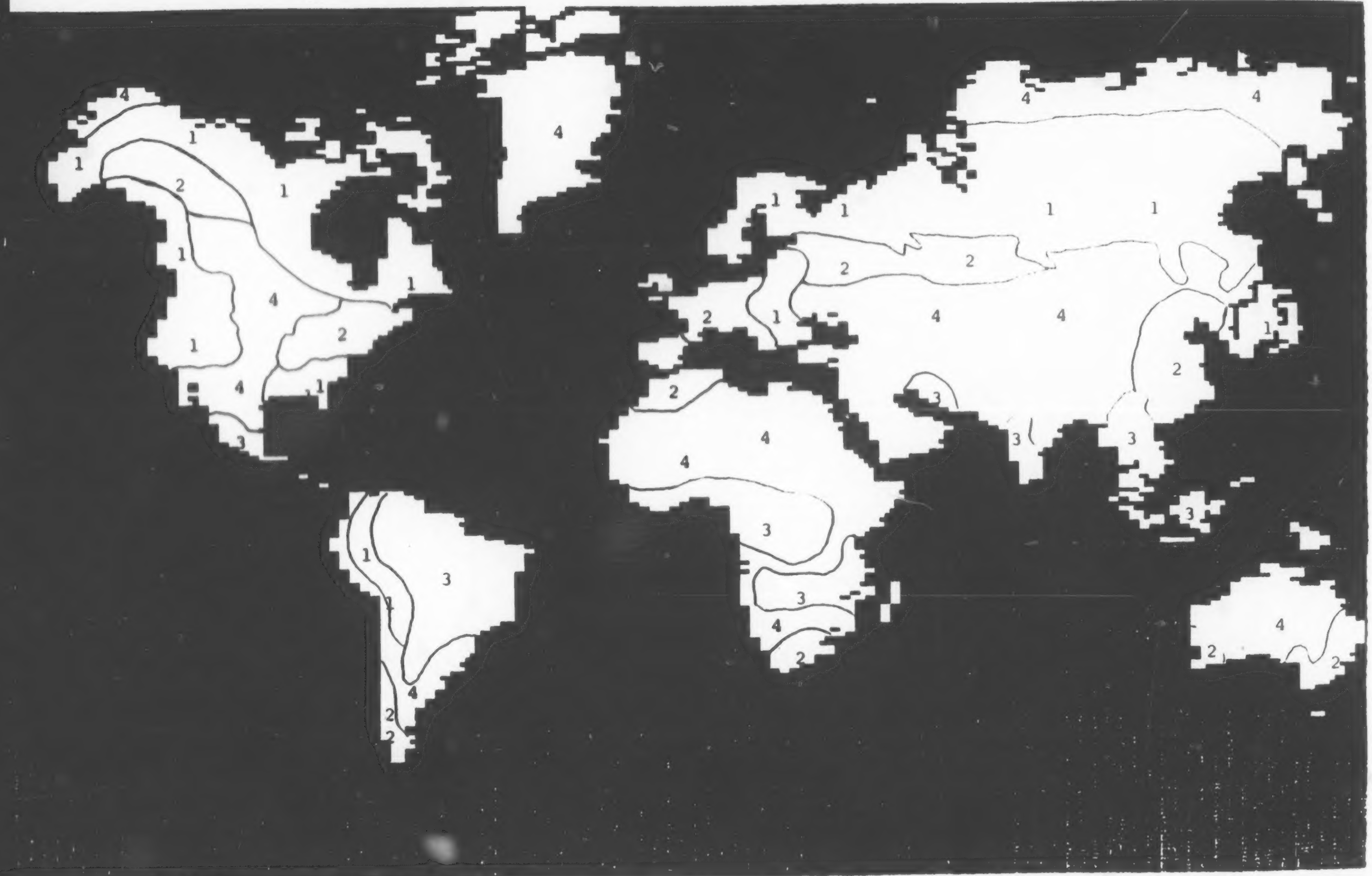
Forest Products exported to a foreign country:

____________________, ____________________, ____________________,

____________________, and ____________________.

At the completion of the assignment, please give the instructor the following completed information: **student activity sheet, world forest type map, and forest regions of the United States map.**

WORLD FOREST TYPES



☐ SOFTWOOD FORESTS # 1

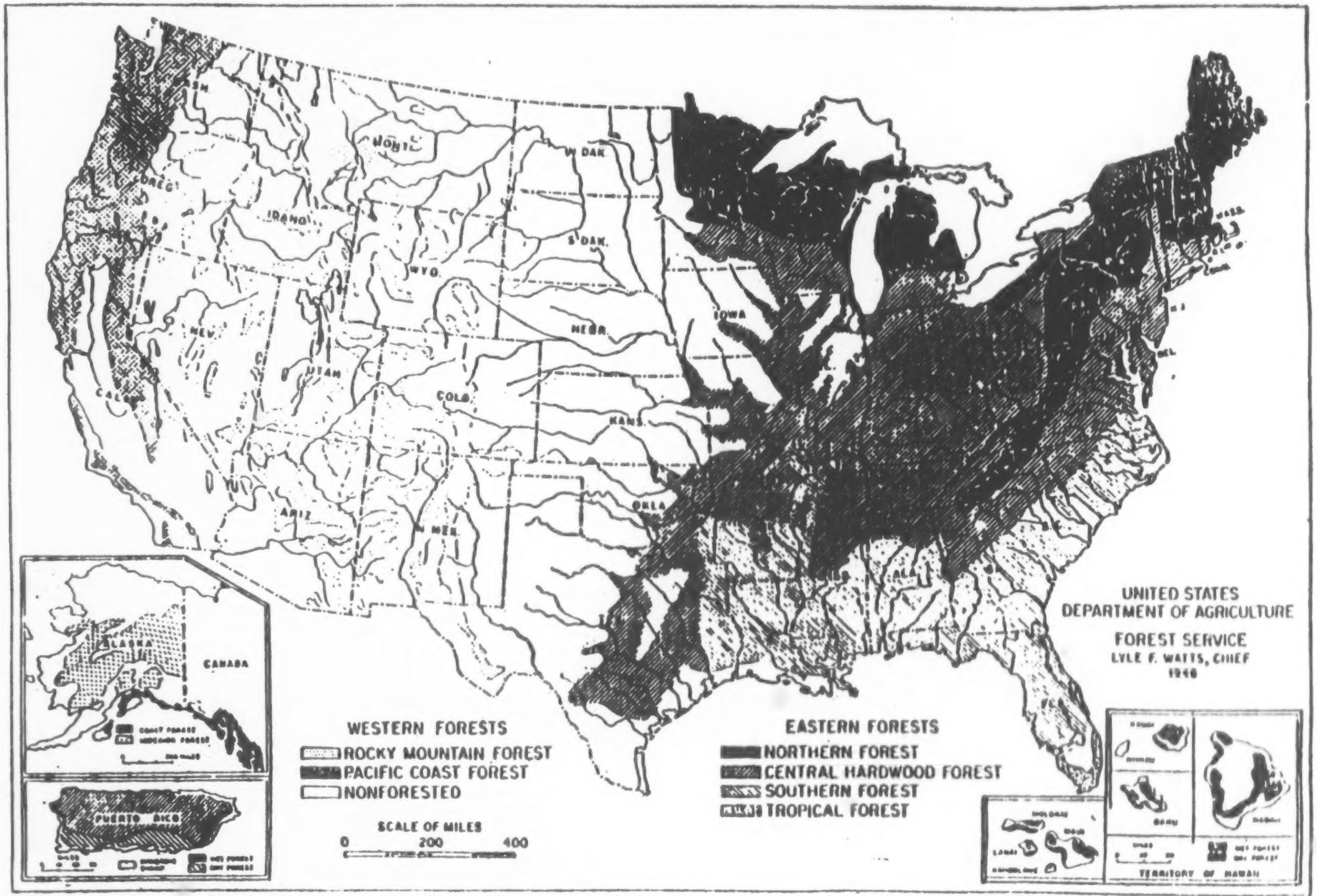
☐ HARDWOOD FORESTS # 2

☐ TROPICAL RAIN FOREST # 3

☐ NONFORESTED # 4

Activity Sheet

Forest Regions of the United States



A map showing the natural forest regions of the United States. The Alaskan Forest is seen in the inset. *(Courtesy of U.S. Forest Service.)*

Table 1. U.S. Log, Lumber, and Veneer Exports to Japan in 1987

	Logs		Lumber		Veneer	
Species	Quantity (MBF)	Value (M$)	Quantity (MBF)	Value (M$)	Quantity (MSqFt)	Value (M$)
Birch	62	22	in "Maple"		5	2
Maple	521	265	10,139	3,101	30	4
Red Oak	1,944	1,339	33,708	22,932	816	71
White Oak	3,722	4,243	7,936	7,207	4,917	582
Ash/Hickory	in "Other"		20,603	12,688	in "Other"	
Walnut	859	2,439	2,265	1,642	7,623	399
Other	6,470	8,533	48,666	31,734	16,081	902
Total	13,578	16,841	123,317	79,304	29,472	1,960

Source: Araman. 1988. U.S. Department of Commerce data.

Table 2. U.S. Log, Lumber, and Veneer Exports to Taiwan in 1987

	Logs		Lumber		Veneer	
Species	Quantity (MBF)	Value (M$)	Quantity (MBF)	Value (M$)	Quantity (MSqFt)	Value (M$)
Birch	1,513	659	in "Maple"		-	-
Maple	1,027	401	5,389	432	2,859	120
Red Oak	14,157	10,515	60,416	45,755	41,985	3,911
White Oak	2,267	2,639	16,548	14,029	28,541	2,108
Ash/Hickory	in "Other"		4,324	2,877	in "Other"	
Walnut	207	497	2,927	1,849	1,526	119
Other	4,334	2,666	5,667	2,934	35,468	3,470
Total	23,505	17,377	95,271	67,876	110,379	9,728

Source: Araman 1988. U.S. Department of Commerce data.

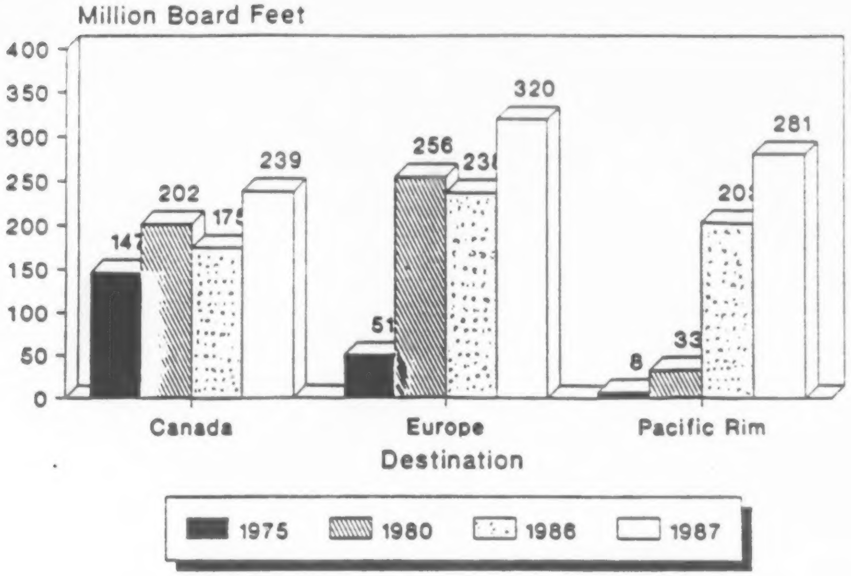
Table 3. U.S. Log, Lumber, and Veneer Exports to South Korea in 1987

	Logs		Lumber		Veneer	
Species	Quantity (MBF)	Value (M$)	Quantity (MBF)	Value (M$)	Quantity (MSqFt)	Value (M$)
Birch	42	14	in "Maple"		-	-
Maple	5,006	2,195	2,752	1,095	(103)[a]	103
Red Oak	976	577	2,644	1,838	10,869	676
White Oak	1,853	1,847	1,026	805	8,673	1,216
Ash/Hickory	in "Other"		233	134	in "Other"	
Walnut	1,615	3,739	1,908	1,118	7,384	1,321
Other	3,485	1,866	2,933	1,994	1,670	205
Total	12,977	10,258	11,496	6,984	28,699	3,521

Source: Araman 1988. U.S. Department of Commerce data.

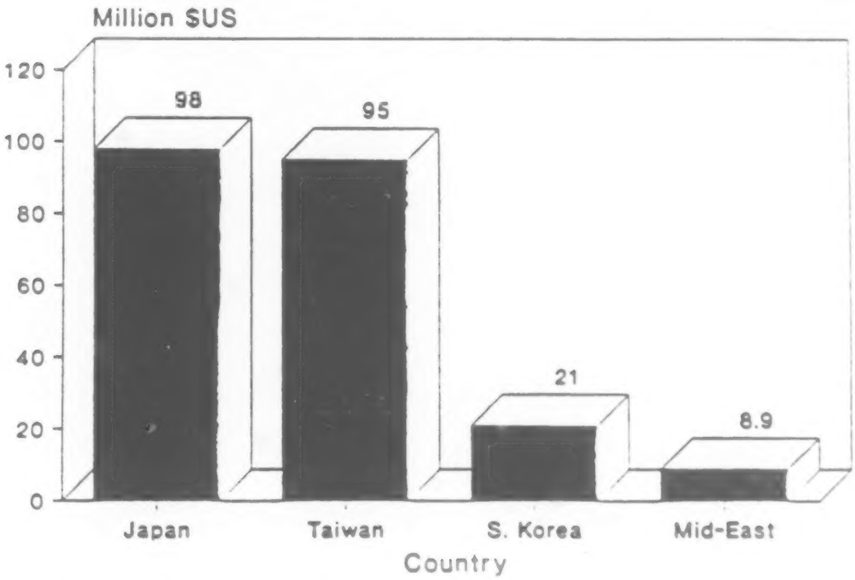
[a] Maple veneer quality is not correct.

Figure 1. Total U.S. Hardwood Exports



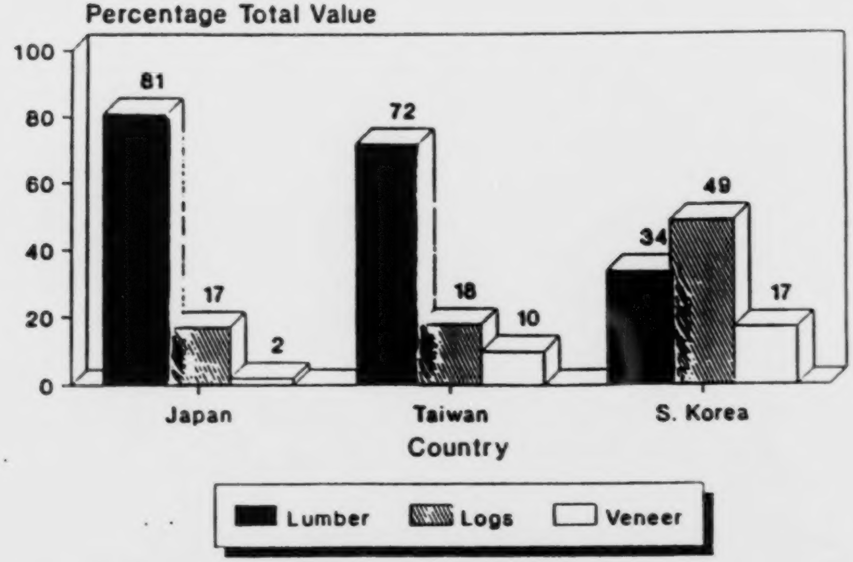
Exports= Logs, Lumber, Veneer.
Source: U.S. Dept. Commerce. 1988.

Figure 2. Value U.S. Hardwood Exports for 1987.



Source: U.S. Dept. Commerce. 1988.

Figure 3. Selected U.S. Hardwood Exports for 1987.



Source. U.S. Dept. Commerce. 1988.

A Student Activity for
Infusing an International Perspective
into a
Forestry Unit or
Natural Resources Unit

-Forest Products-
A Calculation Exercise

Purpose

The main purpose of this activity is to help the students use computational skills related to the use of forest products in a country such as Japan and learn more about forestry in other countries.

58

Forest Products

Plan of Action

Student Performance Objectives:

1. Determine the location of the top ten paper producing countries.
2. Determine a list of various paper products.
3. Determine how to figure board feet using centimeters.

Procedures for Instruction:

(Part One-Paper Products)

1. Share information on overhead transparencies - via lecturette, handout and/or discussion.

2. Divide the class into three or four groups. Each group is to make a list of products made of paper other than the traditional things like newspaper, books and writing paper.

3. Have each group share their list with the whole class. If you want to make this a competitive event extra points should be given for items not normally used in the United States.

4. Take the top ten countries in paper production and divide them among the three or four groups of students.

5. Have the students identify where their countries are located on the world map or globe.

(Part Two Chop-Sticks)

1. Share information on overhead transparencies - via lecturette, handout and/or discussion.

2. Have students determine how many board feet of lumber is needed in Tokyo each day for disposable chopsticks.
   a. 2,000,000,000 chop sticks per year divided by 365 days per year = 8,219,178 used per day.
   b. **Two pair** of chop sicks measure 23 cm long
      1 1/2 cm wide
      1/2 cm thick
   c. English equivalent are 9 inches long
      .6 inches wide
      .2 inches thick
   d. One board foot is a board 1 foot long
      12 inches wide
      1 inch thick
   e. One board foot .2 inches thick would be 12 inches wide and 5 feet long.

f. Each 9 inch long board, .2 inches thick, 12 inches wide contains 40 pairs of chop sticks.
g. 5 feet divided by 9 inches = 6.66 sections per board foot.
h. Each section contains 40 pair of chop sticks
i. 6.66 sections X 40 pair per section - 266.4 pair of chop sticks per board foot.
j. Tokyo needs 8,219,178 pair of chop sticks per day divided by 266.4 per board foot equals 30,852.77 board feet per day just to meet Tokyo needs for disposal chop sticks.
k. **Depending on the exact method used by the students answers will range between 20,830 to 30,853 board feet.**

Materials Needed:

1. Overhead Projector
2. Handouts - Information Sheets
3. World Map or Globe

Evaluation Activities and/or Questions:

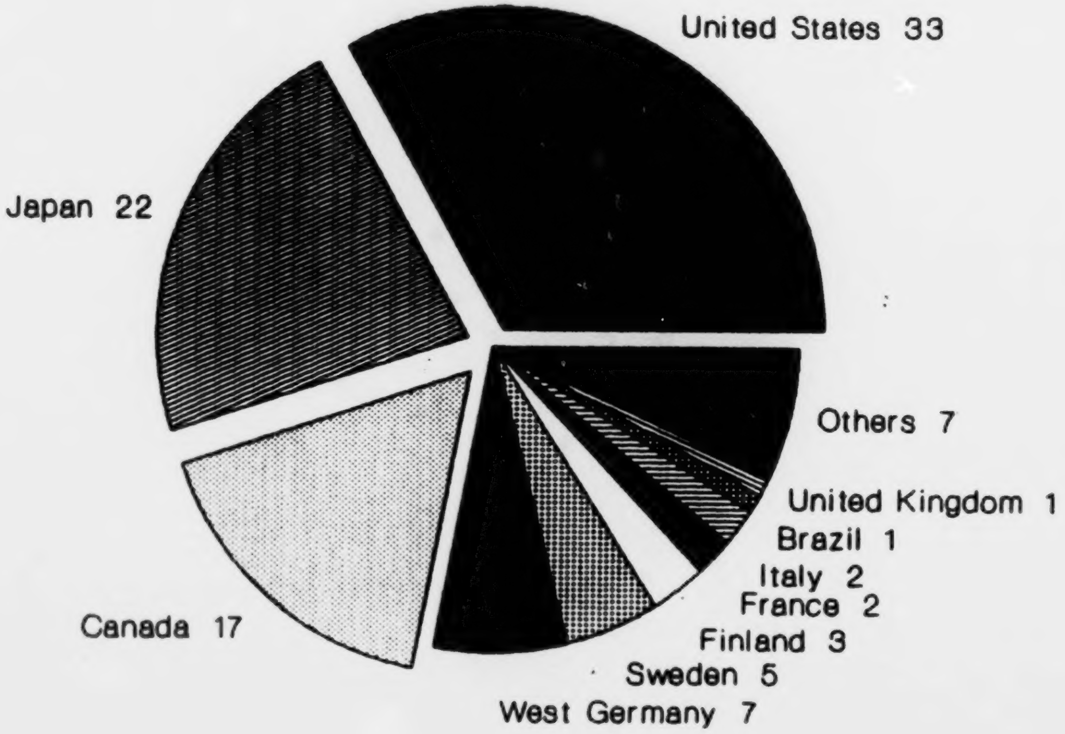
Evaluate the student list of paper products

Evaluate need for additional math skills

Options:

Have students actually make some chop sticks and/or use them to eat with.

PAPER PRODUCING COUNTRIES



Transparency #1

Transparency #2

TOKYO CHOP STICKS

Board Feet To Chop sticks

- 3 Billion chop sticks are used each year in the city of Tokyo
- Each pair are 23 cm long
- They are 1 cm wide and taper to .5 cm
- And they are .5 cm thick
- 1 cm equals .3937 inches

- HOW MANY BOARD FEET ARE REQUIRED EACH DAY TO SUPPLY TOKYO'S CHOP STICKS ?

- One board foot is a board 1 inch thick, 12 inches wide and 1 foot long.

Board Feet to Chop Sticks

(Answer Sheet)

- Two pair of chop sticks laid side by side form a rectangle 23 cm X 1.5 cm and .5 cm thick
- The English equilivent is .9 inches long .6 inches wide and .2 inches thick
- If one board foot is 1 foot long, 12 inches wide and 1 inch thick, then a board .2 inches thick and twelve inches wide and 5 feet long would also be one board foot!
- Multiply 5 feet by 12 inches • 60 inches
- Divide 60 inches by the length of your chop sticks • 6.66
- Two pair of chop sticks are .6 inches wide, 12 inch wide board divided by .6 equals 20 X two pair or 40 chop sticks in each 12 inch wide 9 inch long board
- 40 multiplied by 6.66 equals 266.4 pairs of chop sticks per board foot.
- Tokyo needs 8,219,178 chop sticks each day
- 8,219,178/266.4 = 30,852.77 board feet of lumber each day just for chop sticks

Tokyo Chop Sticks

Board Feet to Chopsticks

Information:

- Three billion chop sticks are used each year in the city of Tokyo
- Each pair are 23 cm long
- They are 1 cm wide and taper to .5 cm
- They are .5 cm thick
- 1 cm equals .3937 inches
- One board foot is a board 1 inch thick, 12 inches wide and 1 foot long

Question:

How many board feet are required each day to supply Tokyo's sticks?

A Student Activity for
Infusing an International Perspective
into an
Agricultural Products and Processing Unit or
Related Units

Processing Tofu
-A Taste of Japan-

Purpose

The main purpose of this activity is to help the students understand more about agricultural products and processing as well as actually processing a product common to the Japanese diet.

Processing Tofu

Plan of Action

Student Performance Objectives:

1. Determine market value of soybeans used for various purposes
2. Select a soybean variety for a specialized purpose in processing food.
3. Follow directions in processing good quality tofu
4. Compare tofu making processes using different variables which affect firmness, texture, taste, etc.
5. List the nutritional/health benefits of tofu.
6. Prepare Tofu using various methods - grilled, deep fried, silken strawberry, peanut, mixed with vegetables.
7. Determine the difference between regular Japanese Tofu and Silken Tofu - processing procedure, texture, taste

Procedures for Instruction:

What will the instructor do?

1. Have students write a letter to one of the following agencies for information regarding edible soybean varieties produced in the state and markets available for these varieties:
   -State Soybean Association or Promotion Board
   -State Department of Economic Development
   -State Department of Agriculture
   -International Trade Center
   -Soybean Food Processors
2. Team teach letter writing - English teacher to provide this instruction; asked by ag. instructor.
3. Provide addresses of contact persons to secure information from organizations such as state soybean association, state department of economic development, international trade center, etc.
4. Coordinate construction of wooden boxes with the industrial arts instructor.
5. Provide all the necessary equipment, soybeans, $CaSO_4$, etc.
6. Give copies of processing procedure to all students
7. Schedule resource persons from the state or community to talk with ag. classes regarding the importance of edible soybeans to current and future international trade and marketing.
8. Have student present oral reports summarizing the information received as responses from ag. industry.
9. Provide pertinent information to supplement student presentations.
10. Show videos, slides, or films of soybean markets, Tofu processing, etc.
11. Have Japanese international exchange student or community resource person from Japan talk to the ag classes regarding processing of high quality Tofu. This person could also demonstrate the Tofu making procedure.
12. Coordinate with the Home Economics teacher - a variety of ways to prepare Tofu and serve samples. Home Ec teacher to provide information on nutritional values/benefits of Tofu in diets.

What specific procedures will be followed and what instructions should be given?

1. Develop and distribute outline of procedures to follow in processing Tofu.
2. Have students draw topics to compare variations in the manufacture/processing of Tofu.

What are some variation which could possibly be used to enhance learning about Tofu processing?

1. Use of regular American soybeans v.s. Japanese preferred edible soybeans in Tofu manufacture.
2. $CaSO_4$ v.s. MgCl
3. Various levels of $CaSO_4$ use
4. Boiling too long v.s. proper time
5. Stirring the $CaSO_4$ water mixture with the soybean milk too long v.s. 1 minute
6. Use of a plastic container without holes versus a wooden container with hole in making Tofu.

Materials Needed for Instruction:

1. Soybeans
   a. Regular American soybeans (2 or more cups of good quality)
   b. Edible soybeans preferred by the Japanese (2 or more cups of good quality). These can often be purchased in area Oriental Foods grocery stores.
2. $CaSO_4$ or MgCl
3. Measuring cup
4. Tablespoon
5. Wooden spoon (large)
6. 2 or more bowls
7. Rolling pin
8. Blender or food processor
9. Hot plate or stove
10. White cotton cloth - pieces should be 1 1/2 feet square
11. Cold water and warm water
12. Refrigeration

Evaluation Activities and/or Questions:

1. Letters written to agricultural agencies by the ag. students
2. Oral reports to present information received from ag. industry persons in response to letters
3. Problem solving worksheets or other activities
4. Ability to follow directions in processing Tofu.
5. Leadership and cooperation in working in a small group to process Tofu correctly.
6. Tests regarding variables in processing Tofu.
   a. What factors affect texture, firmness, taste, etc. of the product
   b. Why Tofu is a viable food in the daily diet
   c. Ability to analyze factors which determine whether it is feasible to produce edible soybeans.

References:

State Soybean Association or Promotion Board

State Department of Agriculture

International Trade Center of the State

Department of Economic Development

Land Grant College

Post Secondary Colleges which offer food processing courses

Soybean Food Processing Companies

International Students on Exchange Programs

International citizens of the community

Other school faculty members

Japanese Cooking by Slack - HP Books, Inc.

Step By Step Japanese Cooking by Downer & Yoneda, Quarto Publishing Co.

Processing Tofu

◦◦◦A Taste of Japan◦◦◦

I. A Pictorial Set of Instructions -- in Japanese

II. Instructions in English

This activity can easily be conducted by students if given the proper equipment, materials and instruction.

I. Tofu Processing Pictorial

豆腐

豆腐は作り方によって、かたさ、舌ざわり、風味のちがったものができます。

型枠で水分を圧搾して取り除いたものを木綿豆腐、型枠で豆乳を全部凝固させたものを絹ごし豆腐といいます。

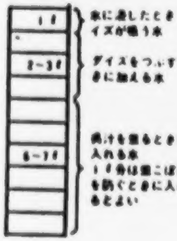
豆腐は腐敗しやすく「宵越しの豆腐は風味がない」といわれますから、一回で食べられる量だけ作ることがたいせつです。

材　料

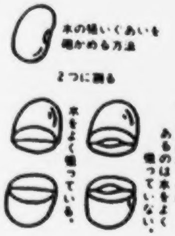
ダイズ………	1 kg
（国産の肉質が厚く皮の薄いもの）	
凝固剤………	大さじ1杯半～2杯
（すまし粉・硫酸カルシウム）	
水………	（ダイズの重量の10倍量）10 ℓ

（用量の水の使い方）

ダイズ1 kg当たり
10 ℓの水が必要


1 ℓ
2～3 ℓ
6～7 ℓ
水に浸したときダイズが吸う水
ダイズをつぶすときに加える水
呉汁を煮るときに入れる水
1 ℓ分は煮こぼれを防ぐときに入れるとよい

1 ダイズを水に浸す


水の吸いぐあいを確かめる方法
2つに割る
水をよく吸っている。
すきまがたくさんあるのは水をよく吸っていない。

夏で12時間、冬で20～24時間浸す。吸水したダイズが重量で2倍になるまで

2 ダイズをすりつぶす

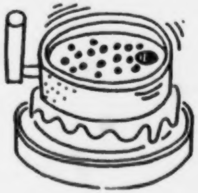
（ミキサーのばあい）

約2～3分すりつぶす（ふきこぼれに注意）

細かくつぶしすぎない
ダイズの2倍量の水

（石うすのばあい）

水を加えながらゆっくりとすりつぶす



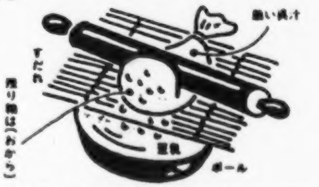
できたものを「呉汁（ごじる）」という

3 呉汁を煮る

青くさみがとれる
すりつぶしたダイズ

約5～6倍量の水を入れて加熱する。沸騰してから5～6分かき混ぜる。焦げつかせないよう注意。ふきこぼしそうになったら火を弱める

4 しぼる



のし棒で強く押してしぼる。こし袋は木綿布で目の細かいものを使う。豆乳の量が少ないときは、湯を少量加えてふたたびしぼるとよい

5 凝固剤を入れる

凝固剤を2～3倍の水に溶かして入れる
強くかき混ぜるとかたい豆腐ができる
しゃもじでゆっくりかき混ぜる
豆乳

豆乳が70～75℃ぐらいの温度のときに入れる。温度が低いと凝固しない

6 凝固させる

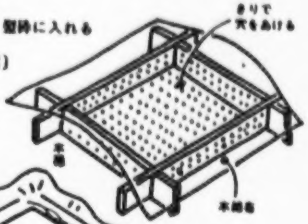
淡黄色の上澄み液
凝固し、沈殿した豆乳のかたまり

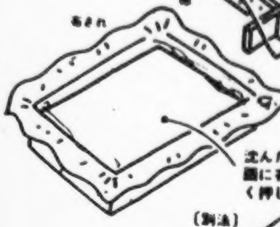
凝固しないばあいは豆乳を80℃まで加熱して、凝固剤を少量追加

約10～20分間静置。上澄み液は捨てる

7 型枠に入れる

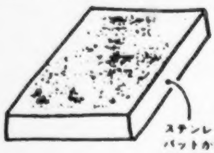
（木綿豆腐）



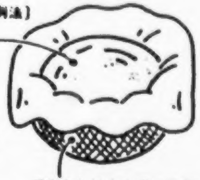


沈んだ豆乳を入れて表面にふきんをかけ、軽く押しをする

（絹ごし豆腐）


ステンレスのバットか穴のない容器

（別法）



ざるまたは水を通す容器。約20分で固まる

8 水にさらす

適当な大きさに切った豆腐を3～4時間冷水にさらす

できあがったものは冷蔵庫に入れる

BEST COPY AVAILABLE

II. Processing Tofu - Step By Step

1. Measure two cups of soybeans
   a. Wash them
   b. Soak them in 6 cups of water
      -12 hours in summer or 20-24 hours in winter
      -Each bean should get twice its original size due to absorption of the water
   c. Check the inside of a few soybeans by cutting them in half
      -Inside of bean halves should be tight
      -If there is space between the two halves, beans may be too dry
2. Grind the soybeans in a blender or food processor
   a. 1 cup of swollen beans at a time
   b. Add 2 cups of water when grinding the swollen beans
   c. Grind for 2 minutes in the blender (Grinding too long will cause tofu to become too fine)
   d. This ground mixture is called "Gojuu"
3. Boil the mixture
   a. Pour the mixture into a large pan
   b. Add 4 more cups of water
   c. Stir slowly
   d. Boil - when it starts boiling, turn the heat off. When bubbles settle down, turn on the heat (medium) again for 5 to 6 minutes while stirring. Do not burn the mixture.
4. Wrap the boiled mixture in a white cotton cloth
   a. Take the hot mixture from the pan and place in the white cloth
   b. Squeeze
   c. Keep the juice (pure soybean milk)
   d. Cool off a bit to room temperature
5. Add $CaSO_4$, MgCl or Negari
   a. Measure 2 level tablespoons of $CaSO_4$ and stir into 1/2 cup of warm water
   b. Pour $CaSO_4$ water mixture onto the wooden spoon and stir into the soybean milk slowly for 1 minute
      -Don't stir too long or Tofu will be too hard
      -Don't stir too hard or Tofu will be too stiff
6. Make the Tofu milk become jelly like
   a. Let it set for 10 minutes or up to 20 minutes
   b. If it didn't get firm, boil the Tofu milk and add some more $CaSO_4$
   c. Throw away the water that settled above the Tofu jelly
7. Line the wooden box with holes with white cotton cloth
   a. Place the Tofu jelly into the wooden box which was lined with cotton cloth.
   b. Place another white cotton cloth over the top of the Tofu jelly.
   c. Let the Tofu jelly drain
   d. Place a 3 to 4 pound weight on top of the wrapped Tofu; press for 15 to 20 minutes. You can use a plastic box without holes to get Kinuposhi Tofu.
8. Cut hardened Tofu into pieces and then leave them in cold water for 3 to 4 hours.
9. Keep Tofu refrigerated.

A Student Activity for
Infusing an International Perspective
into an
Agricultural Marketing Unit or
Agricultural Sales and Service

Adding Value to Agricultural Products Through Marketing

Purpose

The purpose of this activity is to develop student awareness of the benefits of adding value to a product for marketing purposes and the implications to international agriculture.

114

Adding Value to Agricultural Products Through Marketing

Plan of Action

Student Performance Objectives:

1. Identify the agricultural commodities produced within the area that have the potential for both domestic use and international export.
2. Identify the different types of consumer products produced from the commodities selected.
3. Compare and contrast the marketing techniques used to add value to agricultural products.

Procedures for Instruction:

It is suggested that the following activity be used an as interest approach to introduce the adding value concept.

1. Select a product that is produced in two different countries. (See interest Approach - Instructor Fact Sheet)

2. Define the adding value concept. (Transparency master)

3. Establish student groups to thoroughly research agricultural products marketed within the area to determine the following:
    a. how the products are produced and marketed
    b. consumer demand for product at local, national and international levels
    c. potential for international export based on adding value benefits
    d. how adding value will increase the demand for the product

4. Construct a product map - see instructions

5. Each group will prepare an oral presentation of their findings for the class.

6. A written summary report of the groups' findings will be submitted to the instructor as part of the evaluation process.

Materials Needed for Instruction:

1. World map
2. United States map
3. Two muskmelons for interest approach
4. Product/commodity information - current statistical data
5. Reference materials
6. Questionnaire

Evaluation Activities and/or Questions:

1. Complete the questionnaire
2. Evaluate group work
3. Evaluate oral presentation
4. Evaluate written summary
5. Evaluate the product mapping exercise

References:

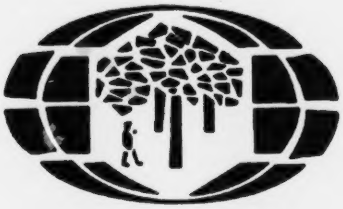
U.S. Department of Agriculture - Agricultural Statistics Export and Import Data

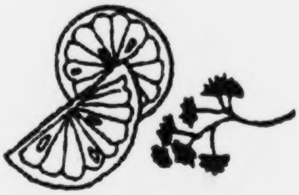
Department of Agriculture - state data

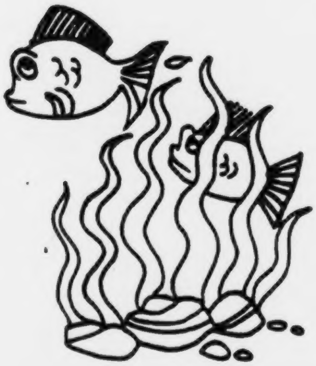
U.S. Feed and Grain Council (USFGC)

U.S. Meat Export Federation (USMEF)

International trade Offices - state locations







Fact Sheet

Adding Value Through Marketing

Muskmelon Production

This interest approach will contrast the difference between the United States and Japan in the pricing and production of muskmelon. The information provided represents one example of the attitude that could be used to add value for product marketing.

Japan

The production of muskmelon in Japan represents a unique way to add value to an agricultural product through marketing. This particular vine crop is grown in small greenhouses with a maximum of 250 plants per house. Each plant as it develops is tied to a stake to reduce the amount of ground/floor space that would be required in normal circumstances. Each plant receives its water and nutrient needs in the form of individual application. Every plant is allowed to blossom and develop a minimum of three small 1 - 2 inch melons. The producer will evaluate the small melons and select the best one for the purpose of growth. All other melon starts are removed from the plant. Each one of the remaining melons is then carefully evaluated as it grows and is wrapped with a protective paper to give it a smooth texture as it develops the netted surface. The benefit of this process provides the best possible melon from each plant that is uniform in size and sweetness. However, the price received is equally as important, since this production technique limits the market supply.

In Japan, a single melon grown using this procedure can be sold by the producer for 2000 yen ($13.34). It is not unusual to see that same melon sold in the retail market for 6000 - 10,000 yen ($40 - $ 67).

Note: An operation of this nature will produce 3-4 crops per year in each greenhouse. Muskmelons are also grown in small plots where the vines are allowed to spread across the ground and develop as many melons as possible.

United States

Depending on the location of a muskmelon operation in the United States, the amount of space utilized between plants and plant rows will vary. However, for this example the most important fact would be the concept of maximum production per plant to achieve greater profit over cost. Most melons are sold on the basis of price per pound or dollars per melon. The benefits of this process would include more melons for consumer use and lower unit cost. On the negative side of this process, we would find oversupply placing pressure on the market price. Quality and quantity to the consumer will be less uniform.

The price of muskmelon used to represent the U.S. comparison should be representative of your area.

Adding Value Marketing Activity

1. What products are produced and marketed in the area?

2. Identify the consumer demand for the product your group has selected at the following levels.

   Local -

   National -

   International -

3. How will adding value increase the demand for the product?

4. Will there be potential for international export based on the added value benefit? Why or why not?

Transparency #1

Adding Value to Products

The Concept Defined:

The process of marketing a product through a variety of activities, which include but not limited to:

Production control

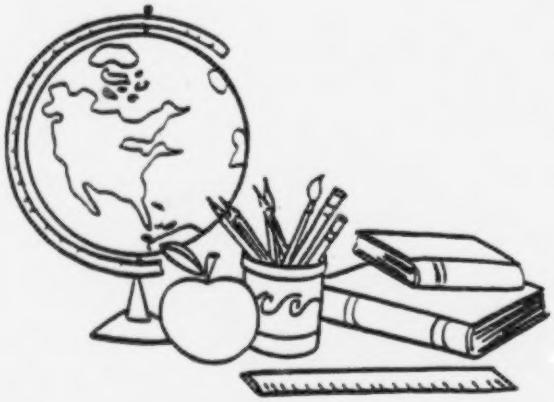
Price control

Alternative product development

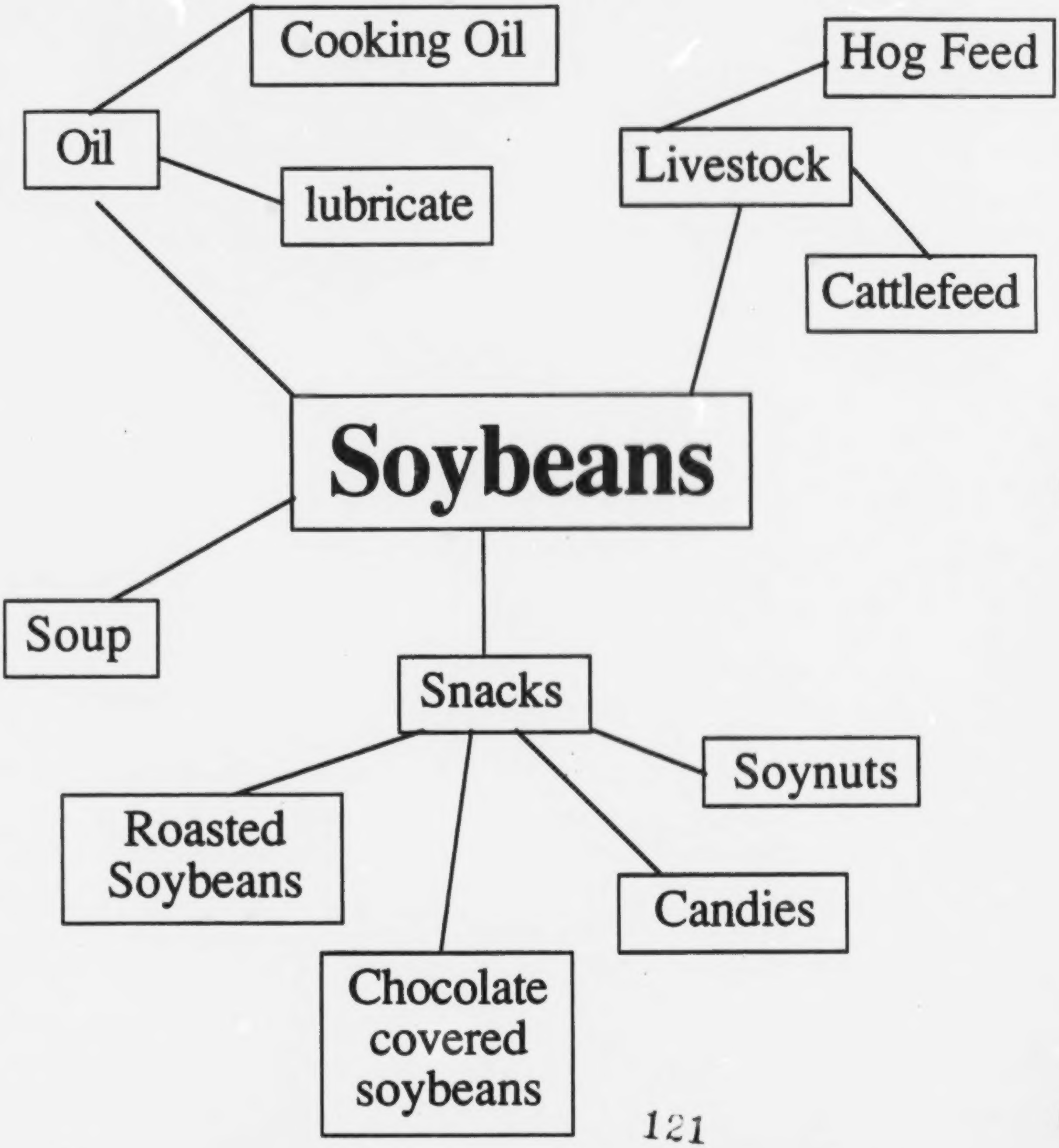
Specialty products

Product Mapping

This activity is to be used to help students identify the variety of ways that an agricultural product is processed leading to its wide distribution in the marketing system. The activity is best carried out via a group process. Each group should be given a newsprint sheet and marker so that the group can "map" the various products etc. and changes the product undergoes in the industry. Students may need to conduct some library research or refer to text books to identify various possibilities for product enhancement. When completed, the students will have a broader knowledge of product use and a basis to compare uses in their own country to uses in other countries, especially if one product map is constructed for use of a commodity in one country and another for the same product in another country. In this way students will understand that value is added to a product everytime changes are made in the product or portions of the product are used for various purposes. See attached sheet for an example of a product map.



Example
-Adding Value to Soybeans-



Cooking Oil

Hog Feed

Oil

Livestock

lubricate

Cattlefeed

Soybeans

Soup

Snacks

Soynuts

Roasted Soybeans

Candies

Chocolate covered soybeans

Can you add more?

A Student Activity for
Infusing an International Perspective
into an
Agricultural Marketing Unit or
Agricultural Sales and Service

American and Japanese Agricultural Cooperatives

Purpose

The main purpose of this activity is to help the student learn more about agricultural cooperatives in other countries. The ultimate goal is to have students compare and contrast agricultural cooperatives as they exist in other countries with how they are organized in the United States.

Comparing American and Japanese Agricultural Cooperatives

Plan of Action

Student Performance Objectives:

1. Identify United States agricultural cooperative business characteristics.
2. Identify Japanese agricultural cooperative business characteristics.
3. Explain how cooperatives differ in all countries of the world.
4. Explain the relationship in the following terms: acres, hectares, ares.

Procedures for Instruction:

1. Infuse this student activity into a unit on methods of doing business or into an agricultural cooperatives unit of instruction. Assist the students to consider American cooperatives relative to purpose, ownership, management, and capital sources.

2. With prior instruction students will have learned the characteristics of the American agricultural cooperative system. Show the land unit transparency. Point out that the hectare is a common land measurement unit outside the USA. One hectare equals 100 ares. Ares is a common land measurement in Japan.

Suggestions for Instruction:

1. This activity may be supplemented by inviting a manager or director of a local cooperative to discuss the cooperative business structure with the class. The speaker should be given the written student activity sheet prior to speaking to the class so that all items can be addressed.

2. Show the transparency indicating similarities in the characteristics of cooperative in Japan and USA. By the process of elimination, students can determine Japanese cooperative characteristics on the written student activity.

3. Allow the students to complete the written student activity.

Materials Needed for Instruction:

1. Overhead projector
2. Reference Materials
3. Written Student Activity

Evaluation Activities and/or Questions:

1. Complete the written student activity
2. Establish grade for activity

References:

Abrahamsen, Martin A., Cooperative Business Enterprise, McGraw-Hill Book Co., 1976.

"Do You Know Your Cooperative?", Iowa Institute of Cooperation, Ames, Iowa, 1980.

Marketing U.S. Agriculture, 1988 Yearbook of Agriculture, pages 208-212.

"Understanding Your Cooperatives", Cooperative Information, Report 6, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Transparency 1

Land Measurement

one hectare = 2.417 acres

one hectare = 100 ares

one acre = ____hectare

one acre = ____ ares

One acre equals .4137 hectare

One acre equals .02417 ares

Similarities in American and Japanese Agricultural Cooperative Systems

- **Provide a service and economic benefits to members**
- **Strive toward efficiency and competitiveness**
- **Lack of appeal to outside investors**

Name:______________________________

Comparing American and Japanese Agricultural Cooperatives

Directions: Listed below are characteristics of agricultural cooperatives descriptive of American or Japanese cooperatives. Some agricultural cooperatives characteristics are similar in both countries. On the line provided place a "J" for Japan agricultural cooperatives characteristics, "A" for American, or "B" if you feel the characteristic is true of both countries.

______ members must work for a minimum of 100 days per year on a farm to qualify for membership

______ patronage refund paid at close of business year

______ members have democratic control of cooperative

______ members, in most cases, must buy all farm supplies from their cooperative

______ when member leaves cooperative, investment is many times forfeited

______ cooperatives first appeared in 1863

______ cooperative first appeared in 1947

______ facility development determined by government

______ organized to provide a service and economic benefit to its members

______ members elect directors at an annual meeting

______ members may make suggestions to management but many times have no voting

______ cooperative strives for efficiency and competitiveness

______ membership stock may be classified as common or preferred

______ no dividend from investment

______ cooperative usually receives government subsidies

______ in many cases member must live in cooperative district in order to belong

______ must pay in advance for seed, fertilizer, and chemicals

______ usually must own some ares* to join cooperative (*ares is not a misspelling of acres)

______ government makes basic financial decisions for cooperative

______ owned and controlled by its member patrons

______ nearly all producers belong to a cooperative

______ value of membership stock has no appeal to an outside investor

______ cooperative returns a percentage of earnings to patrons

Name:________________________________

Comparing American and Japanese Agricultural Cooperatives

Directions: Listed below are characteristics of agricultural cooperatives descriptive of American or Japanese cooperatives. Some agricultural cooperatives characteristics are similar in both countries. On the line provided place a "J" for Japan agricultural cooperatives characteristics, "A" for American, or "B" if you feel the characteristic is true of both countries.

J	members must work for a minimum of 100 days per year on a farm to qualify for membership
A	patronage refund paid at close of business year
A	members have democratic control of cooperative
J	members, in most cases, must buy all farm supplies from their cooperative
J	when member leaves cooperative, investment is many times forfeited
A	cooperatives first appeared in 1863
J	cooperative first appeared in 1947
J	facility development determined by government
B	organized to provide a service and economic benefit to its members
A	members elect directors at an annual meeting
J	members may make suggestions to management but many times have no voting rights
B	cooperative strives for efficiency and competitiveness
A	membership stock may be classified as common or preferred
J	no dividend from investment
J	cooperative usually receives government subsidies
J	in many cases member must live in cooperative district in order to belong
J	must pay in advance for seed, fertilizer, and chemicals
J	usually must own some ares* to join cooperative (*ares is not a misspelling of acres)

J government makes basic financial decisions for cooperative

A owned and controlled by its member patrons

J nearly all producers belong to a cooperative

B value of membership stock has no appeal to an outside investor

A cooperative returns a percentage of earnings to patrons

A Student Activity for
Infusing an International Perspective
into an
Agricultural Marketing Unit or
Agricultural Sales and Service

Strategy 2000

Purpose

The main purpose of this activity is to help students in becoming familiar with the challenges facing the international community in providing a skilled workforce in agriculture for the turn of the century.

131

Strategy 2000

Plan of Action

Student Performance Objectives:

1. Identify the quantity and quality needs of the international agricultural industry in the year 2000 and beyond.
2. Compare and contrast employment entry level skills and educational needs of agricultural personal or present labor base in international agriculture to those projected beyond the year 2000.

Procedure for Instruction:

1. Students should be presented a basic understanding of employment needs of present world agricultural population. Students in this activity will survey current employment needs and profile current population attitudes and skill levels. Students will then project the needs of the agricultural workforce in the year 2000. Class members will be responsible for specific factors in analyzing the process. Class activities will be a joint venture between an F.F.A. chapter and an F.F.J. chapter.

Suggestions for Instruction:

1. Students will project a list of the 10 most necessary skills and abilities of the agricultural work force in the year 2000. (Brainstorming)

2. Students will formulate the quality standard and procedures for collecting data.

3. Students will identify the needs of group or committee (size, make-up, time table, etc.)

4. Students will identify the data base of information.

5. Students will prepare a questionnaire based on:
   a. Present intentions of landowners
   b. Present intention of production farmers and agri-business people.
   c. Present intentions of agricultural student and high school students.

6. Questionnaire will be jointly administered in agricultural high school situations in both the United States and Japan.

Materials Needed:

1. Computers (Data Base)
2. Questionnaire
3. Reference Materials
4. International Informational Base

Evaluation Activities and/or Questions:

1. Establishment of work groups or committees
2. Completion of questionnaire
3. Evaluate trends and project employment demands for next ten years.
4. List factors affecting change
5. Provide solutions to the factors of challenge.

References:

Employment Opportunities for College Graduates in Food and Agricultural Services, Natural Resources, and Veterinary Medicine. U.S. Department of Agriculture - Washington D.C. 1986.

Hoffman Mark S. The World Almanac and Book of Facts, 1988. New York, World Almanac, 1988

Statistics Ag Situation Report of Japan, 1990.

--Scavenger Hunt--

Who is Who and What is What?

Plan of Action

Student Performance Objectives:

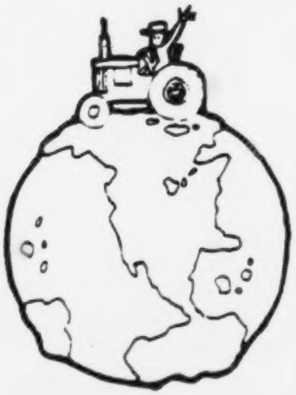
1. Locate food production areas and final consumption points.
2. Identify agricultural exports and their place in world markets.

Procedures for Instruction:

1. Student determine 10 major food enterprises worldwide. (Worksheet #1)
2. Student establishes list of major population centers or countries involved in international trade. (Worksheet - Part 2)
3. Students will compare and contrast cultural effects on agricultural materials and services.
4. Student surveys cultural food needs of specific areas identified in Part 2 of worksheet.

Materials Needed:

1. World Map
2. Data Sheets
3. Worksheets



Worksheet #1

Part One

Determine the 10 most common agricultural export products in world by value.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Part Two

Match the product identified in part one with the country that is leading in its exportation.

1a

2b

3c

4d

5e

6f

7g

8h

9i

Part Three

Crossmatch the country of part two with the leading importing country for that product.

a.

b.

c.

d.

e.

f.

g.

h.

i.

Worksheet #2

Supplemental Activity:

Establish payment from one of these countries to another. Choose from the above list two countries who use different currencies and then secure the daily exchange rate from news source. Determine the amount of currency required to purchase $1000.00 dollars worth of any product from each other.

Supplemental activity:

Select five food items that you enjoy on a regular basis that are available as a result of international trade.

	ITEM	COUNTRY OF ORGIN
1.		
2.		
3.		
4.		
5.		

A Student Activity for
Infusing an International Perspective
into an
Agricultural Marketing Unit or
Units in Agricultural Sales and Service

Global Factors: Impact on Agricultural Commodity Prices

Purpose

The main purpose of this activity is to help the student realize the global influences that can impact the local agricultural commodity market.

Global Factors: Impact on Agricultural Commodity Prices

Plan of Action

Student Performance Objectives:

1. Describe factors affecting supply and demand of agricultural commodities.
2. Describe how global factors can increase or decrease demand for U.S. commodities and therefore affect local bid prices for the commodities.
3. Over an extended period of time, 3 to 6 weeks, take speculative positions in commodity Futures Market, backing up the market positions with reasons, not emotions.

Procedures for Instruction:

1. This activity can be incorporated into a unit on marketing of agricultural commodities.
2. Discuss factors affecting supply and demand.
   For example: weather
   government
   consumer opinion
   global concerns
3. Use "NEWS FLASH" transparencies to stimulate discussion about global factors affecting the commodity markets.
4. Use the world map to indicate location of countries under discussion and incorporate this into an informative bulletin board.
5. "WHEN THE SOVIET UNION BUYS 2 MILLION METRIC TONS OF CORN...JUST HOW MUCH IT THAT?" can be the heading for a bulletin board. Use the attached signs as a part of it or use them as transparencies. Secure local data to make the facts real to your area.
6. Provide instruction on the "mechanics" of the Futures Market making certain the students understand the concepts of:
   a. going "short" the market.
      i.e. Being short soybeans at $6.25
   b. going "long" the market.
      i.e. Being long corn at $2.75
7. Invite a broker into the class or video tape a broker at his/her office and have him/her explain their role in the marketing process.
8. Have students take speculative positions in Futures Market. See attachment for further instruction regarding speculating activity.
9. Provide some type of current market information.
   a. subscribe to:
      Wall Street Journal or
      DTN (Data Transmission Network) or
      AgriQuote (from American Farm Bureau) or
      AgriData or
      another ag-related electronic info source or
      local newspaper carrying commodity quotes
   b. or call local elevator
   c. or tape record radio broadcast of daily market quotations.
10. Provide instruction on how to read market quotations.

11. Have each student select an agricultural commodity and have them compile a notebook of information relating to daily market movements. Such items would include current and long range weather reports for U.S. as well as other major agricultural producing areas of the world, exports, imports, government reports, consumer opinion, current world events, and other pertinent facts.

Materials Needed for Instruction:

1. Chalkboard
2. Overhead projector and transparencies
3. Bulletin board with world map
4. Speculators position forms (see attachment)
5. Optional, but makes record keeping much simpler, Apple II series computer for spreadsheet
6. Source of current commodity market information

Evaluation Activities and/or Questions:

1. Post a daily listing of students with their accumulative earnings or losses and offer a prize to the student with the most earnings over a specific period of time.
2. The notebook with market information will be graded at the end of the specified period. The evaluation will be based upon neatness and the amount of information collected as it pertains to the chosen commodity.

References:

Appleworks Template for spreadsheet may be purchased from author for a cost of $3.00 to cover disk, handling, and postage. Contact:
Dan Humphrey
Fredericktown High School
117 Columbus Road
Fredericktown, OH 43019

AgriQuote Electronic market Information Service contact state Farm Bureau ACRES coordinator or call national ACRES helpline at 1-800-826-8145.

DTN - Data Transmission Network Corporation
8805 Indian Hills Drive
Omaha, Nebraska 68114
1-800-779-5000

AgriData Network
330 E. Killbourn Ave.
Milwaukee, Wisconsin 53202
1-800-558-9044
in Wisconsin call 1-800-242-6001

International Agriculture Worksheet Package, 140 pages (1987) item #0301X
$8.85. Order from:
Ohio AG. Ed. Curriculum Service
Room 254, 2120 Fyffe Road

The Ohio State University
Columbus, Ohio 43210-1099
614-292-4848

Marketing Farm Grain Crops, Student Manual (184 pgs) item #1035M $8.40, Student Workbook (136 pgs) item #1037W $5.25, Teacher Guide (168 pgs) item #1036G $15.75, order from:

Ohio Ag. Ed. Curriculum Service
Room 254, 2120 Fyffe Road
The Ohio State University
Columbus, OH 43210-1099
614-292-4848

Marketing for Farmers, Published by Doanes (288 pages) may be purchased as item #812X $24.00, order from:

Ohio Ag. Ed. Curriculum Service
Room 254, 2120 Fyffe Road
The Ohio State University
Columbus, OH 43210-1099
614-292-4848

Ag Options - A Primer for Producers, Published by Doanes (82 pages), may be purchased as item #813X $9.95, order from:

Ohio Ag. Ed. Curriculum Service
Room 254, 2120 Fyffe Road
The Ohio State University
Columbus, OH 43210-1099
614-292-4848

Trade Simulator and Trade Simulator ExamMaker, computer software - may be purchased from:

Luman Software, Inc.
P.O. Box 778
Adelphi, MD 20783
301-434-4316

oooooNEWS FLASHooooo

Transparency Masters

These"masters" may be used to make transparencies or they could be duplicated on to cardstock to be used for distribution to students for an exercise/activity to get student involvement.

News Flash!!

Much needed rain expected in Brazil.

News Flash!!

Consumer income up as Japanese receive larger than expected semi-annual bonus.

News Flash!!

Financial indicators show potential economic crisis in France.

News Flash!!

Rain delays planting throughout Soviet Union.

News Flash!!

Congress debates a trade embargo against Soviets

News Flash!!

Japan imposes beef import tariffs.

News Flash!!

Europe experiences an unusally prosperous year.

News Flash!!

Rain delays harvest of soybeans in Argentina.

News Flash!!

Europe chooses canola over soybeans by purchasing two MMT

News Flash!!

World production of palm oil reaches all time high.

News Flash!!

EEC to purchase 1.5 MMT of wheat from Canada

News Flash!!

Japanese find cancer causing contaminates in Brazilian soybeans and cancel all further shipments from South America.

News Flash!!

Gatt talks eliminate tariffs on grain going to Europe.

News Flash!!

Value of the dollar continues to decline against the Japanese yen.

News Flash!!

Dollar strengthens in West Germany.

News Flash!!

Drought continues across the U.S. cornbelt.

News Flash!!

European consumers demand less saturated fats in their diets.

News Flash!!

Japan lifts import quotas on U.S. beef.

News Flash!!

Chinese eating habits changing to include more red meat.

News Flash!!

Conceptualizing
Two Million Metric Tons

How much is that anyway?

Use the following transparencies to explain the concept of two million metric tons.

2 MMT

EQUALS

70
MILLION
BUSHELS

TRANSPARENCY #2

2 MMT

EQUALS

70,000
ACRES
OF CORN

To haul two million metric tons...
It would take...

80,000 Semi Trucks

or

1333 Barges

or

200

100 Car Trains

or

40 Ocean Liners

Future Trader

A Speculator's View of the Markets

An Activity on International Marketing

Future Trader

"A Speculator's View of the Markets"

Instructions about how to incorporate this activity into your teaching.

1. Run off POSITION forms on two different colors so students can easily identify their positions in the market, whether it be LONG or SHORT.
2. Explain the mechanics of the Futures Market.
3. Discuss what has been happening in the markets recently.
4. Make available to the students some type of current market quotations on a daily basis.
5. Pre-determine the length of the trading period. Suggest: 3 to 6 weeks.
6. Announce any awards or prizes to the students earning the most money.
7. It is suggested to limit trading to five contracts, all of the same month. To keep things simple limit trading to two commodities, corn and soybeans.
8. The day the trading starts, all students are required to take a position in the markets.
9. From that point on, students are given the first five minutes of class each day decide their marketing intentions. Require the students to be in a marketing position at all times. They can off-set their positions during this five minute period, but must get back in with another commodity or an opposite position the same day.
10. Use a student to enter information of completed transactions into the spreadsheet.

    -The student's record is found in the spreadsheet,

    -By the color of the POSITION form, we can tell whether this is a SHORT contract or LONG contract.

    -If SHORT, the data is entered on the left side.

    -If LONG, the data is entered on the right side.

    -Enter date of original transaction.

    -Enter number of contracts - 1,2,.....or 5.

    -Enter price at the time of original transaction. If it is a SHORT contract, this will be the selling price. If it is a LONG contract, this will be the buying price.

-Enter second price.

-Enter data for all students with completed transactions.

-Hit Open-Apple K for manual calculation. Do this three times to transfer all data to summary cells.

11. The computer calculates the profit or loss on each transaction, puts a total at the top of each student record and brings total forward to summary section at the top of the spreadsheet.

12. Each day arrange totals in summary from top to bottom and print out. Post this sheet so students can see how they compare with classmates.

SHORT THE MARKET

SELLER'S CONTRACT

(YOU THINK THE PRICE IS GOING DOWN)

NAME ______________________ NUMBER OF CONTRACTS ________

TODAY'S DATE ______________ SELLING PRICE ______________

COMMODITY _________________ BUYING PRICE _______________

TRADING MONTH _____________ DIFFERENCE IN PRICE ________

LONG THE MARKET

BUYER'S CONTRACT

(YOU THINK THE PRICE IS GOING UP)

NAME ______________________ NUMBER OF CONTRACTS ________

TODAY'S DATE ______________ BUYING PRICE _______________

COMMODITY _________________ SELLING PRICE ______________

TRADING MONTH _____________ DIFFERENCE IN PRICE ________

FUTURETRADER
PRINT OUT EXAMPLE

```
File:   FUTURETRADER

        NAME                          EARNINGS TO DATE
=====================================================
MIKE VALENTINE                              7650.00
PAULA SCHIMMOELLER                          7200.00
JASON BRYANT                                4750.00
ANDY CLEVENGER                              4250.00
SHAWN BEAVER                                3000.00
SHAWN DAVIS                                 2000.00
JOHN BRYANT                                 1750.00
MICHELLE MORRISON                           1400.00
DUSTIN BEHELER                               750.00
CHRIS SHARP                                 -750.00
CHUCK DANIELS                              -6500.00
CHIP ZOLMAN                               -10750.00
BILL MOWERY                               -12250.00
```

FUTURE TRADER
EXAMPLE INDIVIDUAL RECORD

```
File:   FUTURETRADER

NAME ....JASON BRYANT

NET PROFIT OR LOSS TO DATE .......      4750.00

         SHORT THE MARKET          ***          LONG THE MARKET

***************************************************************
DATE OF  NO. PRICE PRICE PROFIT OR | DATE OF  NO. PRICE PRICE PROFIT OR
TRANSACT CTR.SOLD  BOUGHT  LOSS    | TRANSACT CTR.BOUGHT SOLD   LOSS
***************************************************************
MAR 16   5.00  2.53  2.57 -1250.00 | MAR 23   5.00  6.23  6.14 -2500.00
APR 18   5.00  6.23  6.30 -2000.00 | APR 2    5.00  6.14  6.23  2000.00
APR 26   5.00  2.69  2.71  -750.00 | APR 23   5.00  6.30  6.36  1250.00
MAY 3    5.00  6.62  6.27  8500.00 | APR. 27  5.00  6.52  6.61  2000.00
                              0.00 | APR 30      5  2.72  2.75   500.00
                              0.00 | MAY 1       5  6.74  6.63 -3000.00
                              0.00 |                               0.00
                              0.00 |                               0.00
                              0.00 |                               0.00
                              0.00 |                               0.00
                              0.00 |                               0.00
                              0.00 |                               0.00
                              0.00 |                               0.00
                              0.00 |                               0.00
                              0.00 |                               0.00
```

A Student Activity for
Infusing an International Perspective
into an
Agricultural Marketing Unit or
Units in Agricultural Sales and Service

Knowing Your Trading Partner
Japan and the Japanese
-An Educational Game-

Purpose

The purpose of this activity is to help the student learn more about Japan and the Japanese and to use this information to understand the agricultural marketing systems of Japan and the United States.

Know Your Trading Partner
Japan and the Japanese

-An Educational Game-

Plan of Action

Student Performance Objectives:

1. Identify important agricultural data comparing Japan and U.S.A.
2. Identify important information regarding the social, political, cultural, economical and geographical characteristics of Japan.
3. Relate characteristics and data to agricultural marketing situations.

Procedures for Instruction:

1. Discuss the goals of the game with all the students.

2. After all students understand the goals of the game, the teacher can use the game in a variety of different situations:
   a. With a whole class or group (see rules for using the simulation)
   b. As a small group independent study tool
   c. To fill a void when students complete other activities ahead of their fellow students, i.e. students often finish laboratory projects at varying times
   d. As an out-of-school activity - students could play the game at home

3. Obtain enough simulation packages to supply the needs in any situation

4. Use the materials (rules included) in the educational game package.

Materials Needed for Instruction:

1. One or more educational game packages "Know Your Trading Partner - Japan and the Japanese". Everything is included except one die (one of pair of dice). Following are suggestions for preparing the game for playing:

   a. All parts of the game except the die are included on 8 1/2 by 11 inch standard size white paper for easy copying.
   b. Make a copy of the game board on heavy paper or paste on a standard sheet of poster board. If you have the equipment, the game board could be expanded in size. You may wish to have students add color to improve the visual effect of the game.
   c. Copy each of the seven (7) categories of questions and information sheets on a different color paper. Use the heaviest grade of paper that your copy machine will handle. Copies must be two sided in order to be able to display the category while playing the game. As an advanced assignment you could ask students to

make additional questions and/or information cards.

d. Cut the colored sheets that have been copied into eight equal sized cards (cut down the center of the sheet the 11 inch way, then cut across the remaining pieces dividing them into quarters) to complete each category of cards for use.

e. Stack each category of cards by color and place them around the game board and play can begin.

2. Written and audio visual materials on the subject will be useful resources for learning information and creating new cards.

Evaluation Activities and/or Questions:

1. After playing the "Know Your Trading Partner - Japan and the Japanese" Game, the student will be able to correctly answer 90% of the questions on a test formulated from the questions and fact cards used while playing the game.

References:

No additional references are needed to play the educational game but students may be inspired to seek more knowledge. Following are a few good references.

1. Today's Japan (illustrated), Japan Travel Bureau, Inc. 2nd Edition, 1989, Printed in Japan*

2. A Look Into Japan (illustrated), Japan Travel Bureau, Inc. 2nd Edition, 1989, Printed in Japan*

3. Living Japanese Style (illustrated), Japan Travel Bureau, Inc. 2nd Edition, 1989, Printed in Japan*

4. 'Salaryman' in Japan (illustrated), Japan Travel Bureau, Inc. 2nd Edition, 1989, Printed in Japan*

5. Eating in Japan (illustrated), Japan Travel Bureau, Inc. 2nd Edition, 1989, Printed in Japan*

6. Festivals of Japan (illustrated), Japan Travel Bureau, Inc. 2nd Edition 1989, Printed in Japan*

7. Intercultural Communicating, Brigham Young University, Center for International and Area Studies, Publication Services, 130 FOB, Provo, Utah, 84602, (801)378-6528. (cost: about $5.00)

*These books were listed for 910 yen (marked down to 883 yen or about $6.00 in Japan in July of 1990).

Know Your Trading Partner

Japan and the Japanese

◦◦An Educational Game◦◦

Introduction: This game is designed to assist in learning important information that will enhance the ability of a person to trade with the Japanese. Persons preparing for a career in international trade or the production, supply and servicing of items for Japanese markets will benefit from this educational experience. Persons planning a visit to Japan will also find this game a very useful part of their preparation. The game board was created for easy copying on 8.5 by 11 inch paper. This size limits the number of players who can play on one board. For larger groups the author suggests using more than one board, expanding the size of the board or creating playing teams. To play the game you will need a playing piece for each player or team and a single die (one of a pair of dice).

Rules for the Educational Game

1. Players - (1) Teams or (2) Individuals
   Two or more teams, each team using one playing piece, may play the game or two to six individual players can gather around the board and play this educational game.
2. Each team or individual player must choose a playing piece. Any small items may be used, such as various colors or sizes of button, coins, home or office hardware(like paper clips, small batteries, etc.). The author likes the Japanese yen coins if you have them.
3. Each team or individual player rolls the die and the team or person rolling the highest number on the die begins the play. Play progresses clockwise from the beginning player
4. Before the first playing roll of the die, each team or individual player chooses any space on the board and places the playing piece on it. No action is required when placing the playing piece on this space.
5. Each team or individual player in turn rolls the die and moves the playing piece clockwise the number of spaces as indicated by the roll of the die.

Rules (continued)

6. There is some action required for every space on which the player lands. Action is as follows:

    a. "FREE" space - When a player lands on a "FREE" space the team or the individual will receive three (3) points automatically and the player to the left chooses a card from the top of the "FREE" information stack and reads it for the edification of the whole group.

    b. There is a stack of question cards for each of six categories on the board and the player must answer the question on the card which is on top of the stack. Stacks should be shuffled prior to starting the game

    c. The Questioner (the player to the left of the person who is to be questioned) takes the top card from the respective stack and reads the question.

    d. Only the team or player being questioned is allowed to answer (only one answer from a team). If one of the other teams or players gives the answer before the team or player being questioned has a chance to answer, their score is reduced by 5 points (see scoring procedure below).

    e. The Questioner declares the answer "Correct" or "Incorrect". If anyone disagrees with the decision of the Questioner, the players must vote to resolve the dilemma.

    f. After a card has been read it should be placed under the stack from which it was drawn.

8. Scoring - Use option a. or option b. - not both):

    a. Beginning players may choose not to keep score. Players will read the question and answer when they land on any space. After learning through this option players should begin to use option b.

    b. Three (3) points will be awarded for each correct answer given.

9. Under option 8b. above, a non-participant or a player must keep score, or teams or players may keep their own score. The group should decide how score will be kept before play begins.

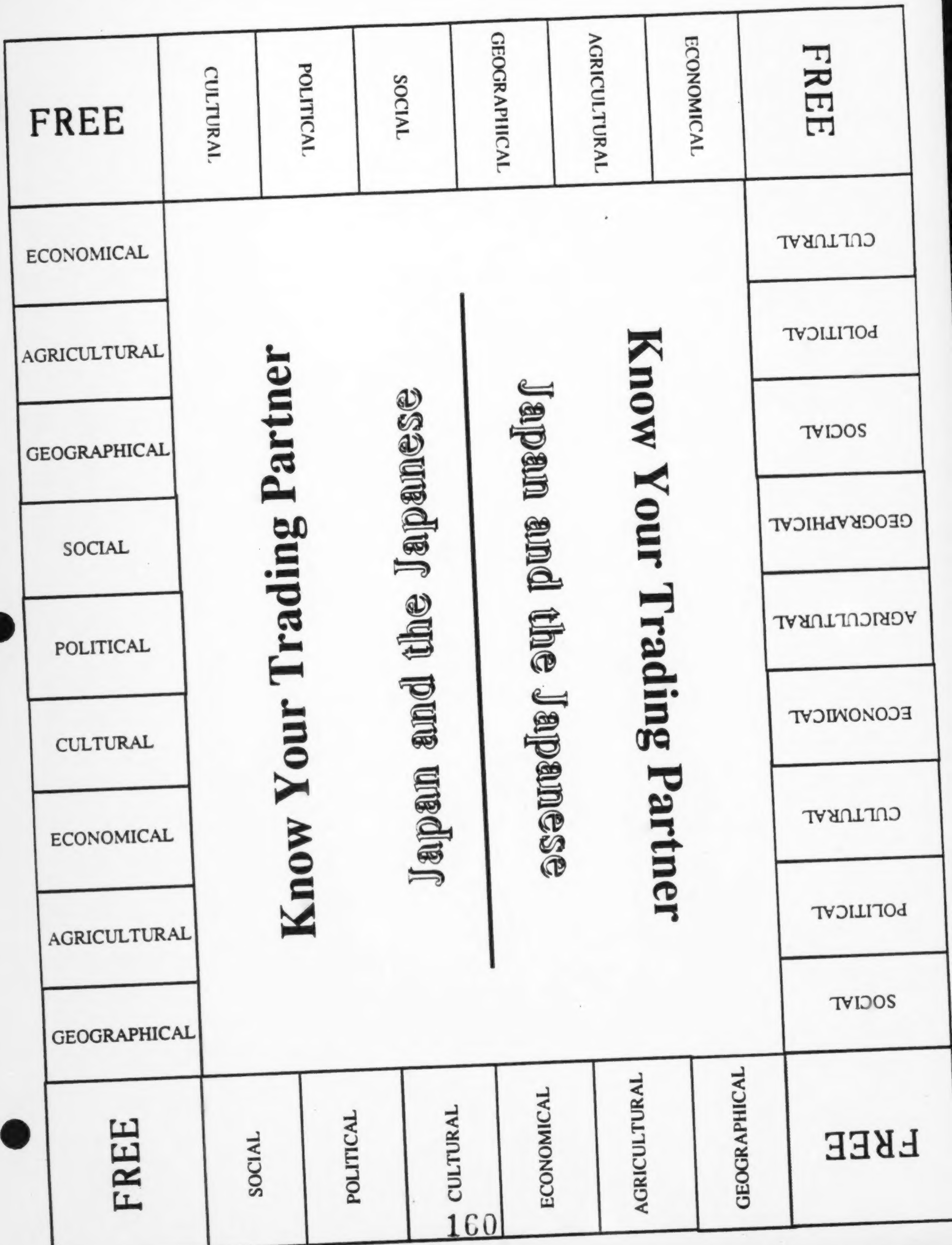
10. The game may end in one of several ways, one of which should be chosen by the group before play begins:

    a. Choose a time at which the game will end. If this option is chosen, players must answer the questions within 30 seconds after it has been asked.

    b. Collectively players select a certain number of points and when any player reaches or exceeds that number the game is ended.

    c. Play until all the Question and Free Information Cards have been used. When using this option the card should not be placed under the pile after it has been used.

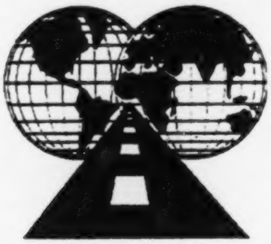
11. "The Winner" - Everyone wins because they have learned some things about Japan and the Japanese, one of the United State's most important trading partners. However, if you must choose the ultimate winner, it is the player with the highest score at the end of the game.


Know Your Trading Partner
Japan and the Japanese
Know Your Trading Partner
Japan and the Japanese
FREE
ECONOMICAL
AGRICULTURAL
GEOGRAPHICAL
SOCIAL
POLITICAL
CULTURAL
ECONOMICAL
AGRICULTURAL
GEOGRAPHICAL
FREE
SOCIAL
POLITICAL
CULTURAL
ECONOMICAL
AGRICULTURAL
GEOGRAPHICAL
FREE
SOCIAL
POLITICAL
CULTURAL
ECONOMICAL
AGRICULTURAL
GEOGRAPHICAL
SOCIAL
POLITICAL
CULTURAL
FREE
ECONOMICAL
AGRICULTURAL
GEOGRAPHICAL
SOCIAL
POLITICAL
CULTURAL

Know Your Trading Partner

Japan and the Japanese

◦◦An Educational Game◦◦



The following sheets are the"fronts" of the game cards. They will need to be duplicated on cardstock and matched with the "backs" which are in the next section.

Agricultural

Question: Farm size is measured in acres in the United States. How is farm size measured in Japan?

Answer: Hectares

Agricultural

Question: How many acres (a.) equals one hectare (ha.)?

Answer: There are approximately 2.5 acres (2.4711 to be exact) in one hectare.

Agricultural

Question: Kobe beef is grown in Japan and is considered a delicacy. How does it differ from average U.S. beef?

Answer: It has more extensive marbling (fat distributed through-out the meat). Recent research indicates it has more mono-unsaturated fats, the less dangerous fat for humans.

Agricultural

Question: A high quality musk melon, about five inches in diameter, properly packaged will sell for a very high price as a gift. What price might that be in dollars. Guess what that price might be in U.S. dollars.

Answer: Up to $30 each.

Agricultural

Question: Japan purchased 21 percent of all the agricultural products exported from the U.S. in 1989. Name 3 of the seven highest dollar volume commodities?

Answer: (1) Live animals and meat, (2) feed grains, (3) soybeans, (4) fruits, (5) feeds and fooders, (6) vegetables and (7) tobacco.

Agricultural

Question: Beef exports to Japan are predicted to increase to 2 billion dollars by the year 1995. True or False?

Answer: True.

Agricultural

Question: What percentage of disposable income is spent for food in Japan vs. U.S.

Answer: Japan - 22%
U.S. - 15%

Agricultural

Question: Japan is known as a tea drinking nation. Which one tea is much preferred over all the others?

Answer: Green tea.

Agricultural

Question: What percent of Japanese farmers are full-time farmers?

Answer: Approximately 13% are full-time farmers with 87% being part-time farmers. Townships actively seek out and invite industry to locate in their area to increase the tax base as well as to provide jobs that will raise the standard of living of the farmers.

Agricultural

Question: What festival in Washington D.C., the U.S. capitol, owes its origin to the Japanese?

Answer: The Cherry Blossom Festival.

Agricultural

Question: How can rice straw be used?

Answer: Rice straw, is used to make rope, tatami mats, paper; as food and bedding for cattle and horses; as thatching material for dwellings and other shelters; as fuel; as a mulch; as a source of organic matter in the soil; as a green fertilizer; as a food container for certain foods and as a basic material from which all sorts of handicrafts are made.

Agricultural

Question: What is the name of a famous ceremony in Japan that is named for an agricultural product.

Answer: The Tea Ceremony. Initially the practice of drinking tea was brought from China by Buddhist monks for medicinal purposes. Today it is influenced by Zen and is an art based on four virtues: harmony, respect, purity and tranquility. If any one of these states of mind is missing the tea ceremony is considered a failure.

Agricultural

Question: How is rice grown in Japan?

Answer: Rice is grown in paddies in Japan. Paddies are leveled fields that can be flooded.

Agricultural

Question: The art of raising miniature potted trees is an ancient art of Japan. What is the name of this art?

Answer: Bonsai.

Agricultural

Question: Japanese floral art has strongly influenced U.S. flower arrangements. What is the name of this practice?

Answer: Ikebana which means "living flowers". To the Japanese, their floral art involves their religion and their social structure.

Agricultural

Question: What was rice chaff used for?

Answer: Rice chaff was used as fuel for cooking the rice and created that slightly browned bott[illegible] of cooked rice.

Agricultural

Question: Japan maintains self-sufficiency in only one agricultural commodity. What is the commodity?

Answer: Rice.

Agricultural

Question: In Japan, what percentage of farms are engaged in rice production?

Answer: 80%

Agricultural

Question: In the U.S., which state leads in rice production?

Answer: Arkansas followed by California, Louisiana, Mississippi, Missouri and Texas.

Agricultural

Question: What are the different grain types of rice common to the U.S.?

Answer: Long grain, Medium grain, and short grain with long grain rice being the most popular in the U.S. based on area planted. However, short and medium grain rice are exported to Japan

Agricultural

Question: The U.S. is the largest exporter of agricultural products to Japan. It provides 33 percent of Japan's food imports. What are the U.S.'s leading export items to Japan?

Answer: The leading items are soybeans, corn, wheat, sorghum, and beef.

Agricultural

Question: How big is the average Japanese farm?

Answer: The average Japanese farm is 1 hectare (2.5 acres). Being one of the smallest in the world.

Agricultural

Question: How big is the average U.S. farm compared to a Japanese farm?

Answer: The average U.S. farm is 175 hectares (437.5 acres) compared to 1 hectare (2.5 acres) in Japan.

Agricultural

Question: Rice cultivation offered soil conservation and food. What other parts of the rice plant can be used by man?

Answer: The rice straw and the rice chaff.

Geographical

Question: What is the name of the northernmost island of Japan?

Answer: Hokkaido (pronounced "Hoe ky doe")

Geographical

Question: The country of Japan is composed [illegible] four major islands. There is the main island (Hokkaido) and the northern island (Honsho). What are the names of the other two major islands?

Answer: Kyushu (pronounced "Key-oo Shoe") and Shikoku (pronounced "She ko coo")

Geographical

Question: Compare the population and geographical size of Japan with that of the United States.

Answer: Japan has about 120 million people or 1/2 the number of the United States and Japan is only 1/25 the size of the United States

Geographical

Question: What city on the northernmost major island of Japan (Hokkaido) hosted the 1972 Winter Olympics?

Answer: Sapporo

Geographical

Question: Name two important items forced upon the Japanese by the small usable land area and large population.

Answer:
1. Compact housing
2. Need to import food
3. Need to import energy
4. Need to import raw materials

Geographical

Question: Give two advantages of living in a compact area of Japan?

Answer:
1. Highly efficient public transportation
2. Low cost communication i.e. telephone, television etc.
3. Lower cost distribution of goods.

Geographical

Question: What trait, which is still prevalent in the Japanese people, was nurtured by the geographic isolation of an island nation?

Answer: Self sufficiency and survivor orientation.

Geographical

Question: The many people in a small area - Japan - nurtures an industry important to the U.S. Wh[illegible]is it?

Answer: Tourism.

Geographical

Question: Land area is measured in square miles in the U.S. How is land area measured in Japan?

Answer: Square Kilometers (km^2)

Geographical

Question: How many kilometers equal one mile?

Answer: There are approximately 1.6 (1.6093 to be exact) kilometers in one mile.

Geographical

Question: How large is Japan compared to the United States?

Answer: Japan is about 1/25 the size of the United States. The country has about the same area as the state of California.

Geographical

Question: How large is the population of Japan compared to the United States?

Answer: Japan has about 1/2 as many people as the United States. The country has about 120,000,000 (120 million people).

Geographical

Question: What percentage of the land area of Japan is covered by forest?

Answer: About 70% of Japan is covered by forests

Geographical

Question: What percentage of the land area of Japan is used for housing, manufacturing and commercial ventures other than agriculture?

Answer: About 15%

Geographical

Question: What percentage of the land area of Japan is used for agriculture?

Answer: About 15%

Geographical

Question: What is the name of the main island of Japan?

Answer: Honshu (pronounced "Hahn Shoe")

Economical

Question: Can you use U.S. Credit cards in Japan? If yes, which ones?

Answer: American Express, VISA, Mastercard and some others, remember, however that the exchange of the day of purchase may not be used when converting your purchase to dollars.

Economical

Question: The exchange rate is 150 yen for each dollar. How many dollars would you be spending to purchase an item that costs ¥12,000 (yen)? Explain how you made the calculation.

Answer: $80.00

Economical

Question: Which nation produces the most automobiles annually, Japan or the United States?

Answer: Japan

Economical

Question: In which country does the average individual own the most cars - Japan or the United States?

Answer: United States citizens own more cars per person than the Japanese.

Economical

Question: Japan has one of the most advanced public transportation systems in the world. It reaches practically every part of the country. The "Bullet Train" is a part of this system. What is the average speed of the "Bullet Train"?

Answer: The "Bullet Train" travels at an average speed of 220 kilometers per hour (over 135 miles per hour).

Economical

Question: The Japanese are preoccupied with self sufficiency. They diversify imports to prevent a cut-off of supplies. How does this affect their import decisions?

Answer: They prefer to purchase the supplies from a firm located in the country of the import supplier.

Economical

Question: Busses and commuter trains provide the every day transportation needs of many Japanese business people who must commute 90 minutes or more, one way, to work every day. Describe such a commute?

Answer: A 10 to 30 minute ride to the bus stop by bicycle, motorbike or car. Ride bus to commuter train, board commuter train for the city, maybe a change to the subway to get near the office, then a walk to the office.

Economical

Question: What form of travel is most often used by visitors to Japan?

Answer: The train since there are so many of them and they reach practically every community in the country

Economical

Question: Much of the population of Japan is heavily concentrated in the big cities. As a result, the cost of housing has skyrocketed. What was the 1989 price of an average home in central Tokyo? Give answer in yen and dollars

Answer: One Billion Yen (about $6,700,000)

Economical

Question: Much of the population of Japan is heavily concentrated in the big cities. As a result, the majority of business people are forced to live in the suburbs. What is the average commuting time for them?

Answer: 90 minutes or more one way is common.

Economical

Question: The Japanese people have been surveyed on the distribution of wealth. What percentage of the people in that late 1980's survey considered themselves "middle class"?

Answer: Ninety percent (90%), few if any consider themselves rich or poor.

Economical

Question: What is the unit of exchange in Japan (like the U.S. dollar)

Answer: The Yen

Economical

Question: How many yen can you get in exchange for a U.S. dollar?

Answer: The number fluctuates but in mid 1990 you could get ¥150 (yen, Japanese) for $1.00(dollar, U.S.). Give todays value if you can find it.

Economical

Question: You find something you would like to buy in Japan. It will cost ¥1200 (yen). With an exchange rate of 150 yen for one dollar, How many dollars will it cost?

Answer: $8.00

Economical

Question: The bank of Japan issues four denominations of paper notes and six different coins. What are the values of these notes and coins?

Answer: The bank notes are for 1000, 5000 and 10,000 yen; with coins for 1, 5, 10, 50, 100 and 500 yen.

Economical

Question: Where can foreign currency or travelers checks be exchanged for yen?

Answer: All city banks that are branches of a nationwide bank, most large hotels, large city department stores, international airports and some travel agencies. Rural areas may not have easily accessible exchange facilities.

Social

Question: What percentage of Japanese males and females go to high school after completing nine years of compulsory education?

Answer: About 93% of males and 96% of females go on to senior high school.

Social

Question: What percentage of Japanese males and females go to college after completing senior high school?

Answer: About 30% of males and 43% of females go on to two or four year colleges.

Social

Question: Japanese schools attempt to eliminate biases caused by students wearing a wide variety of clothing. What are students required to do?

Answer: Wear a uniform, one for males, one for females and a different one for each activity such as farm work, sports, etc.

Social

Question: Compare and contrast college in Japan and the United States.

Answer: In Japan it is very difficult to get admitted to college but after admission they need not work so hard to graduate. In the United States it is easier to be admitted but very difficult to complete courses and graduate.

Social

Question: You still have not quite mastered chopsticks, but your Japanese host takes you out to dinner for your first night. What do you do about eating utensils?

Answer: Try using the chopsticks. If, after a sincere effort, you still are having problems you may ask for a knife and fork. Just make sure you make an initial effort and your host will be very understanding.

Social

Question: Your host family plans a big welcoming party for you and purchases a large amount of fireworks. (Large varieties which are illegal here) They want to give you the honor of lighting the explosives. What do you do?

Answer: Tell them you are honored with the fireworks but are not familiar with these types of explosives and request that someone else ignite the them.

Social

Question: Name some ways the Japanese WW II generation (born 1920-35) differs from the Baby Boomers (born 1945-1960).
Answer: WW II -more anti-war
-more tolerant of international problems.

Baby Boomers- less tolerant of U.S. competition
- want more westernization.

Social

Question: There are two periods during each year when the Japanese individuals and businesses give each other gifts (like U.S. Christmas). When are they?
Answer: July (Ochugen) and December (Seibo). They are very important socially and economically. Gifts are given to express gratitude to those who have been of service or assistance.

Social

Question: You question your hosts about Japanese cemeteries. They do not feel comfortable and avoid discussing it and change the subject. You still want to learn about it. What do you do to obtain the wanted information?

Answer: You ask someone else who seems more comfortable discussing the subject.

Social

Question: You are offered something exotic such as squid - What do you do?

Answer: You taste it so as not to offend anyone. It also shows good manners. Once you have sampled the exotic food and find that you do not care for it, you are not expected to eat. Most importantly, taste everything.

Social

Question: Your host serves dinner which includes tomatoes, which you do not eat. What should you do?

Answer: Tactfully, explain that you do not eat tomatoes. Be careful no to insult your host.

Social

Question: Elementary education is taken very seriously in Japan. Children, in preparation for special exams, must spend long hours studying in "cram schools" after the regular school day is finished. What is the goal of many parents for their elementary school child?

Answer: To get the child enrolled in an outstanding junior high school.

Social

Question: How many years of school are youth required to complete in Japan?

Answer: Nine years, six years of elementary school and three years of junior high school

Social

Question: You go with your host to a traditional party and as a guest you are offered sake', which is an alcoholic beverage. What do you do?

Answer: As a courtesy to your host you should at least try it. If you are under the legal age to consume alcoholic beverages in the U.S. explain and politely refuse the drink.

Social

Question: Junior high school education is taken very seriously in Japan. Children, in preparation for special exams, must spend long hours studying in "cram schools" after the regular school day is finished. What is the goal of many parents for their junior high school school child?

Answer: To get the child enrolled in an outstanding high school.

Social

Question: Near the end of junior high school exams must be taken to determine what the students are qualified to do upon completion of their compulsory education. What are the choices after completing junior high (9th grade).

Answer: (1) Academic high school for high scores academically, (2) vocational high school for scores not high enough for academic high school and (3) go to work.

Cultural

Question: What may be the biggest problem if you decided to rent a car and drive in Japan?

Answer: The Japanese drive on the left side of the road and the driver sits on the right side of the vehicle controlling the transmission with the left hand.

Cultural

Question: In the 24 years of operation of the "bullet trains" through 1988, how many accident related deaths have there been?

Answer: None and this safety record, rather than speed, is the real pride of the "Shinkansen", the "bullet train".

Cultural

Question: You go into a restaurant and cannot read the menu. How do you go about ordering?

Answer: Be sure to go to a restaurant that has the available menu items displayed as plastic models. Point to the model you wish to order. Many Japanese speak English so you could try to order in English or learn to speak a few words of Japanese

Cultural

Question: You want to go out to dinner at your favorite restaurant. How can you tell if it is open?

Answer: Most Japanese restaurants have a half curtain (in Japanese, a noren) which they hang over the door when the restaurant is open and take inside when it is closed.

Cultural

Question: You and some Japanese friends go out for dinner. You decide to go "Dutch". How do you divide the check?

Answer: The Japanese custom is to divide the check equally among those eating.

Cultural

Question: How do you eat soups and liquid dishes with chop sticks?

Answer: You may pick up the bowl and sip liquids directly.

Cultural

Question: You are beginning to cross the street - Which way do you look first?

Answer: You always look right first because they drive on the opposite side of the street - like in England.

Cultural

Question: What large group of Japanese is rapidly emerging as a powerful group both economically and social?

Answer: Working women.

Cultural

Question: You are in a Japanese home and decide to take a bath, so you fill the tub and hop in. You lather up, wash you hair, and then get out. Have you violated bathing procedure?

Answer: Japanese never actually bathe in the tub. Usually they bathe in the shower or sitting in the tiled area beside the tub using different sized basins to wash and rinse. The bathtub is filled with very hot water and used purely for relaxation. It should be noted that water and energy to heat it are scarce and expensive. Many Japanese are switching to Western methods of bathing.

Cultural

Question: There are traditionally two situations when you remove footwear in Japan. Describe them?

Answer: (1) Before you enter a home and some other buildings, you may see a row of slippers. Take off your shoes and place them with the toes pointing toward the out-of doors. Put on a pair of slippers and enter. (2) Remove all footwear except socks before entering the "Tatami" room (a room covered with tatami mats, tatami mats are made from rice straw).

Cultural

Question: You are served a fish with the head and fins still present - How do you go about eating it?

Answer: Oftentimes, the head is taken off and you hold the fish by the tail eating the entire fish. Of course this depends on the type of fish you are eating. The best advise is, observe your host, and eat the fish following the same procedure.

Cultural

Question: What is the major religion in Japan?

Answer: Buddhism.

Cultural

Question: Japanese lifestyle has changed rapidly as the nation grew to the status of an economic superpower. This status was achieved since the end of World War II, after which Japan was totally devastated. When did World War II end in Japan

Answer: 1945

Cultural

Question: As a guest you may be asked to sit in the back seat of a car when your host is driving. There are only two of you in the car. What do you do?

Answer: If you are comfortable that way, don't worry about it. If you are not, explain that you understand that it is an honor to be asked to sit in the back seat but that you will feel more comfortable in the front with the driver.

Cultural

Question: You are a Christian and your host family is Shinto. There is a very special and sacred religious ceremony occurring. They would like you to participate with them, but it goes against everything you believe. What do you do?

Answer: You explain that your religion prohibits participation, but you would like to observe if they will explain each phase of the ritual as it takes place or immediately following the ritual.

Cultural

Question: When using a taxi cab in Japan, how much should you tip the driver.

Answer: There is no need to tip in Japan.

Political

Question: Where is the capital of the United States and in which state is it located?

Answer: Washington and it is located in the District of Columbia which is not a state.

Political

Question: The United States government operates with a two house system. Name the two houses of government?

Answer: Senate and the House of Representatives.

Political

Question: Who is currently the U. S. Secretary of State and the Secretary of Agriculture? They are very likely to be involved in Japanese negotiations so don't be embarrassed that they know and you don't.

Answer: If no one knows, look it up. They change too often to put on a permanent record.

Political

Question: How large is the United States? How does it compare to Japan?

Answer: The 48 contiguous states are roughly 3000 miles from east to west and 1,000 miles north to south. Actually there are 3,615,123 square miles including Alaska and Hawaii. Japan has 145,730 square miles or about 1/25 the size of the United States.

Political

Question: Before World War II the emperor was all powerful and believed to be a living God. What is the emperor's role today?

Answer: The emperor is symbolic and serves as a figurehead for the nation. He is active in international exchange and other diplomatic activities.

Political

Question: Having been the only nation to ever suffer an atomic attack, what unique features did the Japanese write into its new post World War II Constitution?

Answer: "that the country will maintain no means of external invasion and renounce war."

Political

Question: Post World War II Japan adopted the same type of parliamentarian government as Great Britain which provides for a multiparty system. Name the one party that has dominated the political for most of the time?

Answer: Liberal Democratic Party

Political

Question: The Japanese post-war constitution provides for elected officials who serve in two houses of a central unit called the Diet (as compared to the United States Congress). Na[illegible] the two houses of the Diet?

Answer: The House of Representatives and the House of Councillors

Free Information

Japan is a nation made up of some 3600 islands clustered around the four major islands of Hokkaido, Honshu, Shikoku and Kyushu.

Free Information

The Japanese nation stretches for 3,300 kilometers (over 2000 miles) from the northern most point at Cape Soya on the island of Hokkaido to the southwestern extremity at Yonaguni Island.

Free Information

The Japanese nation stretches from a northern latitude of 20 degrees to 45 degrees. Approximately from central Maine to Cuba. This location causes a diversity of climate from sub-tropical heat to bitter cold. However, most of the nation lies in the temperate zone resulting in clear seasonal changes.

Free Information

Japan has about 200 volcanoes with historical records indicating past eruptions for about 60 of them. The nations highly complex and fascinating topography is due to this activity accompanied by wind and water erosion along with the other forces of nature.

Free Information

Japan is literally surrounded by water, with the Pacific Ocean to the West, the Japan Sea to the East, the Sea of Okhotsk to the North, and the East China Sea to the South

Free Information

Japanese culture has been heavily influenced by Southeast Asia but being somewhat isolated it has cultivated its own distinct civilization.

Free Information

The 3600 islands which form the nation of Japan are really the peaks of huge sub-marine volcanic mountains protruding above the water.

Free Information

The most famous mountain in Japan is Mount Fuji. It is on the main island of Honshu and rises 3,776 meters (12,388 feet) above sea level.
Mt. Fuji has been known from ancient times as "The Mountain Where the Gods Dwell".

Know Your Trading Partner

Japan and the Japanese

◦◦An Educational Game◦◦

The following sheets are the"backs" of the game cards. They will need to be duplicated on cardstock and matched with the "fronts" which are in the previous section.

FREE

FREE

FREE

FREE

FREE

FREE

FREE

FREE

POLITICAL

POLITICAL

POLITICAL

POLITICAL

POLITICAL

POLITICAL

POLITICAL

POLITICAL

CULTURAL

CULTURAL

CULTURAL

CULTURAL

CULTURAL

CULTURAL

CULTURAL

CULTURAL

SOCIAL **SOCIAL**

SOCIAL **SOCIAL**

SOCIAL **SOCIAL**

SOCIAL **SOCIAL**

ECONOMICAL **ECONOMICAL**

ECONOMICAL **ECONOMICAL**

ECONOMICAL **ECONOMICAL**

ECONOMICAL **ECONOMICAL**

GEOGRAPHICAL

GEOGRAPHICAL

GEOGRAPHICAL

GEOGRAPHICAL

GEOGRAPHICAL

GEOGRAPHICAL

GEOGRAPHICAL

GEOGRAPHICAL

AGRICULTURAL

AGRICULTURAL

AGRICULTURAL

AGRICULTURAL

AGRICULTURAL

AGRICULTURAL

AGRICULTURAL

AGRICULTURAL

A Student Activity for
Infusing an International Perspective
into an
Agricultural Marketing Unit or
Units in Agricultural Sales and Service

Agriculture on the Big Board
-An Educational Game-

Purpose

The main purpose of this activity is to help the students gain knowledge about selected countries which will help them understand critical aspects of agriculture and world trade.

Agriculture on the Big Board

--An Educational Game--

Plan of Action

Student Performance Objectives:

1. Identify the names of selected countries.
2. Identify countries geographic location on a map.
3. Describe countries dependence or lack of dependence on agriculture
4. List selected countries import needs.
5. List selected countries export products.
6. List selected countries principal trading partners.

Procedures for Instruction:

The teacher needs to introduce the subject and identify the need for learning activities in the area of world trade. After the stage has been set, the class needs to be divided into small groups and the game provides all further instructions. The teacher should be available to assist with questions and monitor all groups as the game progresses.

The game may be used in combination with units/lessons in agricultural marketing and trade policy.

Materials Needed for Instruction:

All materials/information/instructions are included in the game.

Evaluation Activities and/or Questions:

Teacher should observe and record:

1. The numbers of students who do not finish the game
2. The numbers of students who play or wish to play a second round.
3. The numbers of students wishing to play this game given a choice of other agricultural education games.

Students would need to play the game several times preferably over a period of time to be exposed to the various levels of information from the various countries of the world. Given sufficient exposure for students to become familiar with the information in the game, the teacher should observe, or test for the following:

-Identifying names of countries and where located on map
-Identification of imports and exports of selected countries
-Identification of trading partners

*Pencil and paper tests or oral tests on the above

184

References:

Eddy, Maitland A. (1966). Atlas of the World: New York Incorporated.

Hoffman, Mark S. (1990). The World Almanac. New York: A Scripps Howard Company.

Johnson, Otto. (1990). The 1990 Information Please Almanac. New York: Houghton Mifflin Company.

Note: The information in this game represents one point in time and only a few limited sources which often differed regarding facts involving only one country or commodity. Therefore, this game should not be considered a definitive source of precise contemporary information, but a general guide to infuse a global perspective into classroom activities. Teachers and students should constantly work to correct and add to information in the game. A good activity would be to seek to verify information on the game cards.

Agriculture on the Big Board

--An Educational Game--

Instructor's Suggestions:

It is suggested that teachers adapt these materials to fit local needs. The information sheet could be duplicated on to cardstock and cut into smaller game cards.

Rules

Objective:

Each player tries to answer agricultural questions of a selected level of difficulty for the country he/she has landed on by a roll of the die so as to move from the start/finish position around the world board and return to the start/finish position.

Play:

Each player selects a colored pawn to identify the player and each rolls the die to determine the starting/playing order; a tie is broken by a second roll of the die.

Beginning at the start position, the first player rolls the die and moves his/her pawn to land on the name of a country. If the player can locate the country on the world map, he/she shall move an additional space and may choose to answer a question from either space. The player then selects the level of difficulty he/she wishes to attempt; level 1-6. For difficulty levels 1-5, players select the correct answer from the choices listed; level 6 is to be answered without clue. If the player answers the question correctly he/she then moves the pawn the number of spaces corresponding to the level of question difficulty and awaits his/her next opportunity to play. If the question is answered incorrectly, the player remains on the country until their next opportunity to play.

As each player's turn comes up they roll the die and move the corresponding number of countries spaces and selects the level of questioning difficulty for that country and the process continues until a player reaches the start/winner's position. A player may only enter the winner's position by an exact roll of the die, or by answering a question with the exact number of spaces to enter or by any combination of either.

Questions

Level of Difficulty

1- Approximately what percent of this country's land is utilized for agricultural purposes?

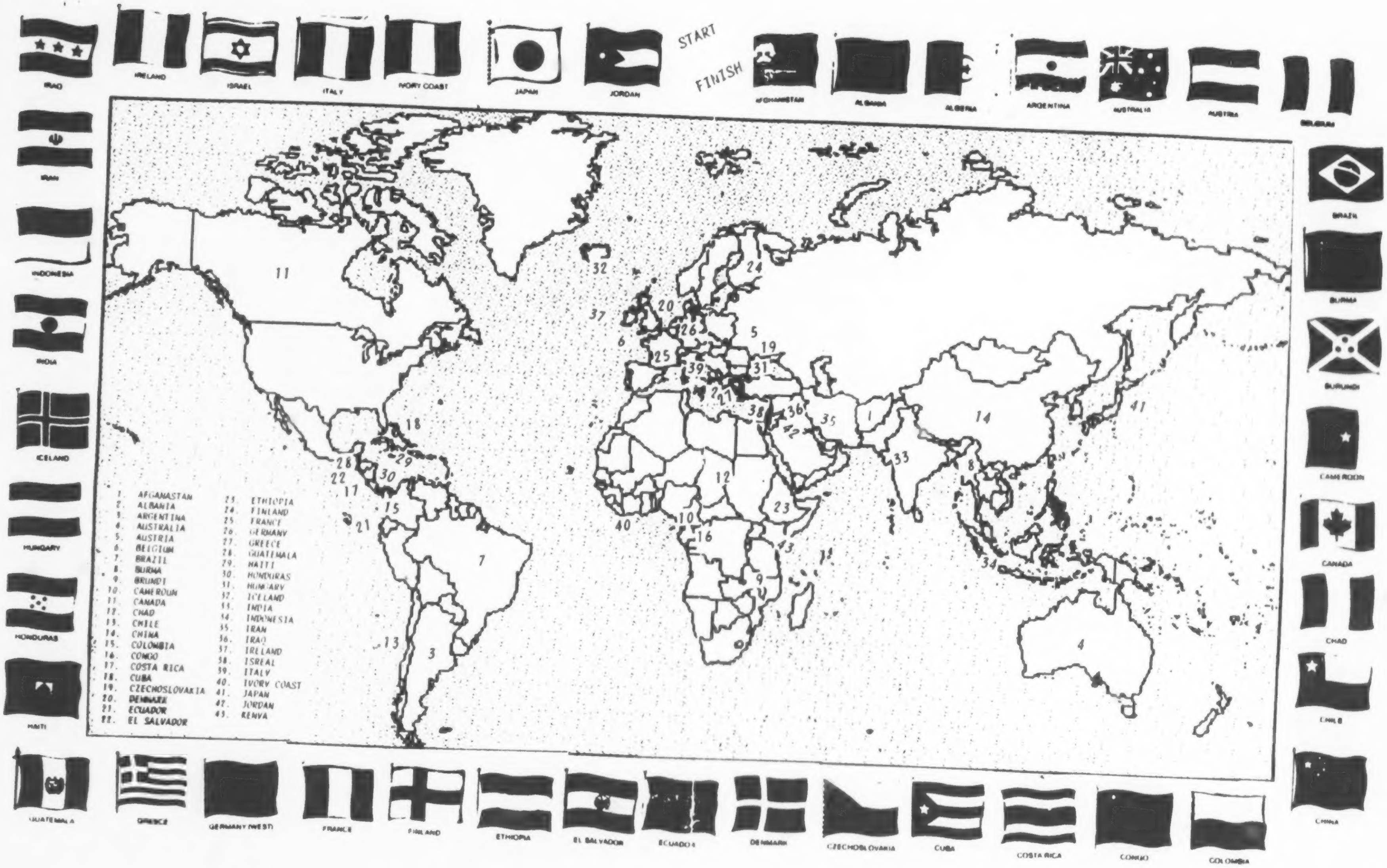
2- Approximately what percent of this country's labor force is employed in agriculture?

3- Which of the following is this country's most important agricultural commodity?

4- Which of the following is this country's most important export product/commodity?

5- Which of the following is this country's leading import product/commodity?

6- With which country does this country most frequently trade?*
*No clues are given. (For the above levels (1-5) the facilitator reads the choices. Choices are not read for this level, but the questions are read as given above.


START
FINISH
IRAQ
IRELAND
ISRAEL
ITALY
IVORY COAST
JAPAN
JORDAN
AFGHANISTAN
ALBANIA
ALGERIA
ARGENTINA
AUSTRALIA
AUSTRIA
BELGIUM
BRAZIL
BURMA
BURUNDI
CAMEROON
CANADA
CHAD
CHILE
CHINA
COLOMBIA
CONGO
COSTA RICA
CUBA
CZECHOSLOVAKIA
DENMARK
ECUADOR
EL SALVADOR
ETHIOPIA
FINLAND
FRANCE
GERMANY (WEST)
GREECE
GUATEMALA
HAITI
HONDURAS
HUNGARY
ICELAND
INDIA
INDONESIA
IRAN
1. AFGANASTAN
2. ALBANIA
3. ARGENTINA
4. AUSTRALIA
5. AUSTRIA
6. BELGIUM
7. BRAZIL
8. BURMA
9. BRUNDI
10. CAMEROUN
11. CANADA
12. CHAD
13. CHILE
14. CHINA
15. COLOMBIA
16. CONGO
17. COSTA RICA
18. CUBA
19. CZECHOSLOVAKIA
20. DENMARK
21. ECUADOR
22. EL SALVADOR
23. ETHIOPIA
24. FINLAND
25. FRANCE
26. GERMANY
27. GREECE
28. GUATEMALA
29. HAITI
30. HONDURAS
31. HUNGARY
32. ICELAND
33. INDIA
34. INDONESIA
35. IRAN
36. IRAQ
37. IRELAND
38. ISREAL
39. ITALY
40. IVORY COAST
41. JAPAN
42. JORDAN
43. KENYA

ANSWER CHOICES

Afghanistan

1.	2.5 or 36				
2.	58 or 6				
3.	Wheat	Corn	Fruits		
4.	Fresh & dried fruit	Nuts	Natural Gas	Carpets	
5.	Petroleum	Foodstuffs	Iron Ore	Coal	Minerals

Albania

1.	39 or 65				
2.	61 or 25				
3.	Wheat	Sugarbeets	Corn		
4.	Textiles	Timber	Coal	Minerals	
5.	Machinery parts	Minerals	Metals	Fuels	

Argentina

1.	65 to 35				
2.	12 or 20				
3.	Meat	Corn	Wheat	Wool	
4.	Processed foods	Automobiles	Textiles		
5.	Machinery	Fuel	Oil	Iron and Steel	Chemicals

Australia

1.	64 or 75				
2.	6 or 10				
3.	Wool	Meat	Cereals		
4.	Wheat	Wool	Coal	Iron	
5.	Meat	Iron ore	Equipment	Wheat	Cereal grains

Belgium

1.	46% or 64%				
2.	5% or 15%				
3.	Livestock	Poultry	Grain		
4.	Iron & steel	Chemicals	Pharmaceuticals		
5.	Machinery	Motor Vehicles	Textiles	Chemicals	Fuels

Brazil

1.	27% or 45%				
2.	35% or 65%				
3.	Coffee	Sugar cane	Oranges		
4.	Coffee	Iron ore	Soybeans	Sugar	
5.	Wheat	Copper	Petroleum	Machinery	Chemicals

Burma/Myanmar

1.	38% or 50%			
2.	66% or 75%			
3.	Legumes	Sugar cane	Corn	
4.	Rice	Teak	Beans	Ores
5.	Machinery	Trans. & const. machinery		Mfg. goods

Burundi

1.	50 or 25			
2.	93 or 75			
3.	Coffee	Tea	Cotton	
4.	Coffee	Tea	Cotton	Hides
5.	Textiles	Food	Trans. equip.	Petroleum products

Cameroon

1.	33% or 66%				
2.	74% or 47%				
3.	Coffee	Cocoa	Timber		
4.	Cocoa	Coffee	Timber	Aluminum	
5.	Consumer goods	Machinery	Food	Beverages	Tobacco

Canada

1.	7% or 10%		
2.	4% or 8%		
3.	Wheat	Barley	Oats
4.	Wheat	Petroleum	Lumber
5.	Electronic equip.		

Chad

1.	38% or 25%				
2.	85% or 33%				
3.	Cotton	Cattle	Sugar		
4.	Cotton	Livestock & animal products		Fish	
5.	Food Machinery	Motor vehicles & parts Cement		Petroleum products	

Chile

1.	23% or 45%				
2.	13% or 23%				
3.	Wheat	Corn	Sugarbeets		
4.	Copper	Iron ore	Paper & wood products		Fruits
5.	Sugar	Wheat	Vehicles	Petroleum	Capital goods

China

1.	41% or 25%				
2.	61% or 35%				
3.	Rice	Wheat	Grains	Cotton	
4.	Agr. products	Oil	Minerals	Metals	Mfg. goods
5.	Grains Machinery	Chemicals	Fertilizers	Steel	Ind. raw materials

Colombia

1.	35% or 25%				
2.	26% or 32%				
3.	Coffee	Bananas	Rice	Corn	
4.	Coffee	Fuel oil	Cotton	Bananas	
5.	Machinery Trans. equip.	Elect.. equipment		Chemical products	Metals

Congo

1.	2% or 5%				
2.	90% or 75%				
3.	Sugar cane	Bananas	Coffee		
4.	Oil	Lumber	Tobacco	Wood	Coffee
5.	Machinery Foodstuffs	Transp. Mach.	Mfg. consumer goods		Iron & steel

Costa Rica

1.	58% or 65%				
2.	35% or 53%				
3.	Bananas	Coffee	Sugar cane	Rice	Corn
4.	Coffee	Bananas	Beef	Sugar	Cocoa
5.	Mfg. products	Machinery	Chemicals	Foodstuffs	Fuels
	Fertilizer				

Cuba

1.	52% or 25%				
2.	17% or 25%				
3.	Sugar	Tobacco	Coffee		
4.	Coffee	Sugar	Nickel	Shellfish	Tobacco
5.	Capital goods	Industrial raw materials		Petroleum	Foodstuffs

Czechoslovakia

1.	40% or 60%				
2.	12.3% or 15.5%				
3.	Wheat	Rye	Oats		
4.	Machinery	Chemicals	Vehicles	Consumer goods	
5.	Machinery	Equipment	Fuels	Raw materials	Food
	Consumer goods				

Denmark

1.	62% or 75%				
2.	6% or 10%				
3.	Meat	Dairy products	Fish		
4.	Meat & dairy products		Fish	Industrial machinery	
	Textiles & clothing				
5.	Industrial raw products		Fuel	Mach. & equip.	Transp. Equip.
	Petroleum				

Ecuador

1.	26% or 52%					
2.	52% or 26%					
3.	Bananas	Cocoa	Coffee	Sugar cane	Fruits	Corn
4.	Petroleum	Shrimp	Bananas	Coffee	Cocoa	Fish prod.
5.	Agr. & ind. mach.	Ind. raw materials		Foodstuffs	Chemicals	
	Transp. equip.					

El Salvador

1.	46% or 64%				
2.	40% or 20%				
3.	Coffee	Cotton	Corn	Sugar	Rice
4.	Coffee	Cotton	Sugar	Shrimp	
5.	Machinery	Automotive Vehicles		Petroleum	Foodstuffs
	Fertilizer				

Ethiopia

1.	•54% or 75%				
2.	90% or 30%				
3.	Coffee	Barley	Wheat	Corn	Sugarcane
4.	Coffee	Hides & skins	Oilseeds		
5.	Petroleum	Foodstuffs			

Germany

1.	50% or 40%				
2.	5% or 10%				
3.	Grain	Potatoes	Sugarbeets		
4.	Machines & machine tools		Chemicals	Motor vehicles	
	Iron & steel products				
5.	Manufactured & agriculture products			Raw materials	Fuels

Finland

1.	8% or 25%				
2.	10% or 5%				
3.	Dairy & meat products		Cereals	Sugarbeets	Potatoes
4.	Timber	Paper & pulp	Ships	Machinery	Iron & steel
	Clothing				
5.	Petroleum & petroleum products		Chemicals	Transportation equipment	
	Machinery	Textile yarns	Foodstuffs	Feed grain	

France

1.	60% or 40%				
2.	7% or 17%				
3.	Cereals	Feed grains	Livestock & dairy products		Wine
4.	Textiles & clothing	Chemicals	Machinery & transportation equipment		
	Agriculture products				
5.	Machinery	Crude petroleum		Chemicals	Agri. products

Greece

1. 71% or 35%
2. 27% or 35%
3. Grains Corn Rice Cotton Tobacco
   Olives Citrus fruits Figs
4. Fruits Textiles Tobacco
5. Machinery & automotive equip. Petroleum Consumer goods
   Chemicals

Guatamala

1. 28% or 64%
2. 5.7% or 8.5%
3. Corn Beans Coffee Cotton
4. Coffee Cotton Sugar Fruits & vegetables
   Bananas
5. Manufactured products Machinery Transp. equip. Chemicals
   Fuels

Haiti

1. 1% or 10%
2. 51% or 35%
3. Coffee Sugar cane Corn Sorghum
4. Coffee Light industrial products Sugar Cocoa Sisal
5. Consumer goods Foodstuffs Industrial equip. Petroleum prod.

Honduras

1. 16% or 25%
2. 62% or 75%
3. Bananas Coffee Sugarcane Seafood Citrus Tobacco
4. Bananas Coffee Lumber Meat Petroleum products
   Tobacco
5. Manufactured goods Machinery Transp. equipment
   Chemicals Petroleum

Hungary

1. 71% or 25%
2. 29% or 35%
3. Corn Wheat Potatoes Sugarbeets Vegetables
4. Machinery & tools Ind. & consumer goods Raw materials
5. Machinery & raw materials

Iceland

1. 0.5% or 5%
2. 11% or 22%
3. Livestock Hay Fodder Cheese
4. Fish Animal products Aluminum
5. Petroleum products Machinery & transportation equipment
   Food Textiles

India

1. 60% or 30%
2. 67% or 37%
3. Rice Wheat Oilseeds Cotton
4. Diamonds Iron goods Textiles & clothing Tea Crude
5. Machinery & transportation equip. Petroleum Edible oils Fertilizer

Indonesia

1. 18% or 25%
2. 55% or 25%
3. Rice Cassava Sugarcane Rubber
4. Petroleum Timber Rubber Coffee Tin
5. Rice Wheat Textiles Chemicals Machinery
   Transportation equipment Iron & steel

Iran

1. 35% or 45%
2. 33% or 44%
3. Wheat Barley Rice Sugarbeets Cotton Dates
4. Petroleum Carpets
5. Machinery Military supplies Foodstuffs Pharmaceuticals

Iraq

1.	22% or 44%					
2.	44% or 22%					
3.	Dates	Livestock	Wheat	Barley		
4.	Petroleum	Foodstuffs				
5.	Manufactured goods		Machinery	Chemicals	Livestock	

Ireland

1.	85% or 75%					
2.	13% or 23%					
3.	Cattle & dairy products		Pigs	Poultry & eggs	Sheep & wool	
	Horses					
4.	Livestock	Dairy products	Machinery	Chemicals	Processed foods	
5.	Grains	Petroleum products		Machinery	Chemicals	
	Textile yarn	Cereals				

Israel

1.	62% or 72%					
2.	6% or 10%					
3.	Citrus & other fruits	Vegetables	Beef	Dairy & poultry products		
4.	Polished diamonds		Citrus & other fruits		Clothing & textiles	
	Processed food					
5.	Rough diamonds	Chemicals	Oil	Machinery	Iron & steel	
	Cereals	Textiles				

Italy

1.	59% or 95%					
2.	10% or 20%					
3.	Grapes	Olives	Citrus	Vegetables	Wheat	Corn
4.	Engineering	Chemicals	Textiles	Food	Metals	
5.	Engineering	Chemicals	Food	Metals		

Ivory Coast

1.						
2.	85% or 75%					
3.	Coffee	Cocoa	Sugar	Corn	Cotton	
4.	Coffee	Cocoa	Tropical wood			
5.	Raw materials	Consumer goods		Fuels		

Japan

1. 15% or 25%
2. 8% or 18%
3. Rice   Vegetables   Fruits   Sugar
4. Machinery & equipment   Automobiles   Metals & metal products
   Textiles
5. Fuels   Metal ore   Raw materials   Foodstuffs   Mach. & equipment

Jordan

1. 20% or 40%
2. 4% or 8%
3. Wheat fruits   Vegetables   Oil
4. Phosphates   Fruits & vegetables   Foodstuffs   Fertilizer
5. Petroleum products   Textiles   Capital goods   Motor vehicles
   Foodstuffs

Kenya

1. 20% or 40%
2. 11% or 22%
3. Coffee   Sisal   Tea   Pyrethrum   Cotton   Livestock
4. Coffee   Tea   Foodstuffs   Refined petroleum
5. Machinery   Transp. equip.   Crude oil   Iron & Steel

Laos

1. 7% or 17%
2. 90% or 75%
3. Rice   Corn   Vegetables
4. Electrical power   Forest products   Tin concentrates   Coffee
5. Rice   Foodstuffs   Petroleum prod.   Machinery   Transp. equip.

Lebanon

1. 31% or 45%
2. 11% or 15%
3. Fruits   Wheat   Corn   Barley   Potatoes
4. Fruits   Vegetables   Textiles
5. Metals   Machinery   Foodstuffs

Liberia

1.	6% or 10%					
2.	71% or 61%					
3.	Rubber	Rice	Palm oil	Cassava	Coffee	Cocoa
4.	Iron ore	Rubber	Timber	Diamonds		
5.	Machinery	Petroleum	Transp. equip.	Foodstuffs		

Libya

1.	9% or 19%				
2.	18% or 9%				
3.	Wheat Peanuts	Barley	Olives	Dates	Citrus fruits
4.	Petroleum				
5.	Machinery	Foodstuffs	Manufactured goods		

Malaysia

1.					
2.	35% or 53%				
3.	Rice	Rubber	Palm products		
4.	Natural rubber	Palm oil	Tin	Timber	Petroleum
5.	Machinery	Transp. equip.	Chemicals		

Mali

1.	2% or 6%					
2.	73% or 43%					
3.	Millet Peanuts	Sorghum	Corn	Rice	Sugar	Cotton
4.	Livestock	Peanuts	Dried fish	Cotton	Skins	
5.	Textiles	Vehicles	Petroleum prod.	Machinery	Sugar	Cereals

Mexico

1.	52 or 25				
2.	26 or 62				
3.	Corn	Cotton	Sugarcane	Fruits	
4.	Cotton Petroleum	Shrimp	Cattle & meat	Coffee	Machinery
5.	Machinery	Equipment	Industrial vehicles		Intermediate goods

Mongolia

1.	1% or 3%				
2.	52% or 42%				
3.	Livestock	Wheat	Oats	Barley	
4.	Livestock	Animal products		Wood	Nonferrous metals
5.	Machinery & equipment		Clothing	Petroleum	

Morocco

1.	5.7% or 6.5%			
2.	47% or 37%			
3.	Barley	Wheat	Citrus fruits	Vegetables
4.	Phosphates Canned fish	Citrus fruits	Vegetables	Canned fruits & vegetables
5.	Capital goods	Fuels	Foodstuffs	Iron & Steel

Nepal

1.	17% or 20%				
2.	93% or 83%				
3.	Rice Sugarcane	Maze Oilseeds	Wheat Potatoes	Millet	Jute
4.	Rice & food products		Jute	Timber	
5.	Textiles Fuel	Manufactured foods		Construction materials	

Netherlands

1.	60% or 50%				
2.	6% or 5%				
3.	Wheat	Barley	Sugarbeets	Potatoes	Meat & dairy prod.
4.	Foodstuffs Textiles	Machinery	Natural gas	Chemicals	Petroleum prod.
5.	Machinery	Crude oil	Chemicals	Textiles	Mineral ores

New Zealand

1.	2% or 20%			
2.	10% or 20%			
3.	Wool	Meat	Dairy products	Livestock
4.	Meat	Dairy products	Wool	
5.	Machinery	Minerals	Chemicals	Consumer goods

Nicaragua

1. 53% or 35%
2. 44% or 22%
3. Cotton Coffee Sugarcane Rice Corn Beans Cattle
4. Coffee Cotton Seafood Bananas Food & non-food agriculture products
5. Machinery Chemicals & pharmaceuticals Transp. equipment Clothing Petroleum

Nigeria

1. 57 or 75
2. 55 or 35
3. Peanuts Cotton Cocoa Grains Fish Yams Cassava Livestock
4. Oil Cocoa Palm products Rubber Tin
5. Machinery & transp. equip. Manufactured goods Chemicals Wheat

Norway

1. 3 or 6
2. 7 or 3
3. Dairy products Livestock Grain Potatoes Furs Wool
4. Oil Natural gas Fish products Chemicals Pulp & paper Aluminum
5. Machinery Motor vehicles Foodstuffs Iron & steel Textiles & clothing

Pakastan

1. 25 or 50
2. 49 or 98
3. Wheat Rice Cotton Sugarcane
4. Raw & manufactured cotton Rice Carpets Leather Fish
5. Food grain Edible oil Crude oil Machinery Chemicals Transportation equipment

Panama

1. 24 or 34
2. 29 or 39
3. Bananas Corn Sugar Rice Coffee
4. Bananas Refined petroleum Sugar Shrimp Coffee
5. Petroleum Manufactured goods Machinery & transp. equipment
   Food

Paraguay

1. 5% or 10%
2. 44% or 88%
3. Soybeans Cotton Hides Sweet potatoes Tobacco
   Corn Rice Sugarcane
4. Cotton Soybeans Meat products Tobacco Timber Coffee
   Hides
5. Fuels & lubricants Machinery & motors Motor vehicles Beverages
   Tobacco Foodstuffs

Peru

1. 24 or 44
2. 37 or 57
3. Wheat Potatoes Beans Rice Sugar Cotton
   Coffee
4. Copper Fish products Cotton Sugar Coffee Lead
   Silver Zinc Wool Oil
5. Machinery Foodstuffs Chemicals Pharmaceuticals

Philippines

1. 41 or 61
2. 50 or 80
3. Rice Corn Coconuts Sugarcane Bananas
   Tobacco
4. Electronic equip. Coconut prod. Sugar Logs & Lumber Copper
   Bananas Garments Nickel
5. Petroleum Industrial equipment Wheat

Poland

1. 49% or 29%
2. 29% or 49%
3. Grains   Sugarbeets   Potatoes   Hogs & livestock
4. Coal   Machinery & equipment   Chemicals
   Industrial products
5. Machinery & equipment   Fuels   Raw materials
   Agr. & food products

Portugal

1. 44 or 66
2. 22 or 55
3. Grains   Potatoes   Olives   Wine grapes
4. Cotton   Textiles   Cork & cork products   Canned fish
   Wine   Timber
5. Petroleum   Cotton   Foodgrains   Industrial machinery
   Iron & Steel   Chemicals

Romania

1. 66 or 88
2. 28 or 48
3. Corn   Wheat   Livestock
4. Machinery   Minerals & metals   Foodstuffs   Lumber
   Fuel   Manufactures
5. Machinery   Minerals   Fuels   Agr. products
   Consumer goods

Saudi Arabia

1. 2% or 1%
2. 30 or 60
3. Dates   Grains   Livestock
4. Petroleum & petroleum products   Wheat
5. Manufactured goods   Transport equipment
   Construction materials   Processed food

Somalia

1. 2% or 4%
2. 30 or 50
3. Livestock Bananas Sorghum Cereals Sugarcane
   Maze
4. Livestock Skins & hides Bananas
5. Textiles Cereals Construction machines Petroleum prod.
   Transportation equipment

South Africa

1. 12% or 15%
2. 30 or 60
3. Corn Wool Wheat Sugarcane Tobacco Citrus
4. Gold Wool Diamonds Corn Uranium Sugar
   Fruits Hides Asbestos Fish products
5. Motor vehicle parts Machinery Metals Petroleum products
   Chemicals Textiles

Spain

1. 62 or 42
2. 19 or 15
3. Cereals Vegetables Citrus fruits Wine Olives & olive oil
   Livestock
4. Fresh fruits Iron & steel products Textiles Footwear
   Automobiles Fruits
5. Machinery & transportation equipment Chemicals Fuels
   Automobiles Iron & steel

Sudan

1. 29 or 58
2. 80 or 40
3. Cotton Peanuts Sesame seeds Gum arabic Sorghum
   Wheat Beans
4. Cotton Peanuts Gum arabic Groundnuts
5. Textiles Petroleum products Vehicles Tea Wheat

Sweden

1. 7% or 3.5%
2. 5 or 7
3. Dairy products Grains Sugarbeets Potatoes Wood
4. Machinery Motor vehicles Wood pump Paper products
   Iron & steel products
5. Machinery Petroleum Yarns Foodstuffs Iron & steel
   Chemicals

Switzerland

1. 26 or 56
2. 6 or 3
3. Cheese & dairy products Livestock Fruits Grains Wine
4. Elect. machinery Chemicals Precision instruments Textiles
   Foodstuffs Yarns Dyestuffs
5. Transportation equipment Metals Foodstuffs Chemicals

Syria

1. 76 or 95
2. 29 or 79
3. Cotton Wheat Barley Tobacco Sheep Goats
4. Petroleum Textiles Tobacco
5. Machinery & metal products Fuels Foodstuffs

Taiwan

1. 30 or 80
2. 20 or 40
3. Rice Yams Sugarcane Bananas Pineapples
   Citrus fruits
4. Textiles Electrical machinery Plywood
5. Machinery Basic metals Crude oil Chemicals

Thailand

1. 38 or 76
2. 65 or 95
3. Rice Rubber Corn Tapioca Sugar
   Coconuts
4. Rice Tapioca Sugar Rubber Tin Textiles
   Jewelry
5. Machinery & transport. equip. Fertilizer Crude Oil Fuels
   Lubricants Metals

Tunisia

1. 49 or 24
2. 32 or 44
3. Wheat Olives Citrus Fruit Grapes
   Dates
4. Petroleum Phosphates Textiles
5. Machinery & equip. Consumer goods Foodstuffs

Turkey

1. 46 or 23
2. 56 or 27
3. Cotton Tobacco Cereals Sugarbeets Fruits Nuts
4. Cotton Tobacco Fruits Nuts Livestock prod.
   Textiles
5. Crude oil Machinery Transportation equip. Metals
   Minerals Fuels Fertilizer Chemicals

Uganda

1. 57 or 24
2. 90 or 45
3. Coffee Tea Cotton Sugar
4. Coffee Cotton
5. Petroleum Machinery Transportation equip. Metals
   Food

206

USSR

1.	27 or 12					
2.	23 or 13					
3.	Wheat	Rye	Corn	Oats	Potatoes	
	Sugarbeets	Cotton	Flax	Cattle	Pigs	Sheep
4.	Petroleum	Natural gas	Machinery & equipment		Mfg. goods	
5.	Grain	Machinery & equipment		Foodstuffs	Raw materials	

United Kingdom (UK)

1.	30% or 15%				
2.	1.7% or 5%				
3.	Wheat	Barley	Potatoes	Sugarbeets	Livestock
	Dairy products				
4.	Machinery	Transport. equipment		Chemicals	Petroleum
5.	Foodstuffs	Petroleum	Machinery	Chemicals	Crude materials

United States

1.	21 or 42				
2.	2.7 or 5.4				
3.	Corn	Wheat	Barley	Oats	Sugar
	Potatoes	Soybeans	Fruits	Beef	Veal
	Pork				
4.	Machinery	Chemicals	Aircraft	Military equipment	
	Cereals	Motor vehicles	Grains		
5.	Crude petroleum	Machinery	Automobiles		

Uruguay

1.	86 or 35			
2.	11 or 33			
3.	Livestock	Grains	Sugar	
4.	Meats	Hides	Wool	Textiles
5.	Crude petroleum	Transport. equipment		Chemicals
	Machinery	Metals		

Venezuela

1.	24 or 12				
2.	16 or 32				
3.	Rice	Coffee	Corn	Sugar	Bananas
	Dairy & meat products				
4.	Petroleum	Iron ore			
5.	Industrial machinery & equipment		Manufacturers	Chemicals	Foodstuffs

Vietnam

1.	23 or 6				
2.	70 or 12				
3.	Rice	Rubber	Fruits & vegetables		Corn
	Sugarcane	Fish			
4.	Agriculture products		Coal	Minerals	
5.	Petroleum	Steel products	Railroad equipment		Chemicals
	Medicines	Cotton			

Yugoslavia

1.	56 or 32			
2.	22 or 65			
3.	Corn	Wheat	Tobacco	Sugarbeets
4.	Leather goods	Textiles	Machinery	
5.	Machinery	Chemicals	Iron	Steel

Zimbabwe

1.	19 or 45				
2.	74 or 92				
3.	Tobacco	Corn	Sugar	Tea	Cotton
	Livestock				
4.	Gold	Tobacco	Asbestos	Copper	Meat
	Chrome	Nickel	Corn	Sugar	
5.	Machinery	Petroleum	Transport. equipment		

ANSWERS

Afghanistan
1. 2.5
2. 58
3. Wheat
4. Fresh & dried fruit
5. Petroleum
6. USSR

Albania
1. 39
2. 61
3. Wheat
4. Textiles
5. Machinery parts
6. Greece

Argentina
1. 65
2. 12
3. Meat
4. Processed foods
5. Machinery
6. USA

Australia
1. 64
2. 6
3. Wool
4. Wheat
5. Meat
6. Japan

Belgium
1. 46
2. 5
3. Livestock
4. Iron & Steel
5. Machinery
6. Germany

Brazil
1. 27
2. 35
3. Coffee
4. Coffee
5. Wheat
6. USA

Burma/Myanmar
1. 38
2. 66
3. Legumes
4. Rice
5. Machinery
6. Singapore

Burundi
1. 50
2. 93
3. Coffee
4. Coffee
5. Textiles
6. USA

Cameroon
1. 33
2. 74
3. Coffee
4. Cocoa
5. Consumer goods
6. France

Canada
1. 7
2. 4
3. Wheat
4. Wheat
5. Electronic equipment
6. USA

Chad
1. 38
2. 85
3. Cotton
4. Cotton
5. Food
6. France

Chile
1. 23
2. 13
3. Wheat
4. Copper
5. Sugar
6. USA

China
1. 41
2. 61
3. Rice
4. Agricultural products
5. Grains
6. Japan

Columbia
1. 35
2. 26
3. Coffee
4. Coffee
5. Machinery
6. USA

Congo
1. 2
2. 90
3. Sugar cane
4. Oil
5. Machinery
6. France

Costa Rica
1. 58
2. 35
3. Bananas
4. Coffee
5. Mfg. products
6. USA

Cuba
1. 52
2. 17
3. Sugar
4. Coffee
5. Capital goods
6. USSR

Czechoslovakia
1. 40
2. 12.3
3. Wheat
4. Machinery
5. Machinery
6. USSR

Denmark
1. 62
2. 6
3. Meat
4. Meat & dairy products
5. Industrial raw prod.
6. Germany

Ecuador
1. 26
2. 52
3. Bananas
4. Petroleum
5. Agr. & Industrial Mach.
6. USA

El Salvador
1. 46

2. 40
3. Coffee
4. Coffee
5. Machinery
6. USA

Ethiopia
1. 54
2. 90
3. Coffee
4. Coffee
5. Petroleum
6. USSR

Germany
1. 50
2. 5
3. Grain
4. Machines & Mach. tools
5. Manufactured & Agr. prod.
6. France

Finland
1. 8
2. 10
3. Dairy & meat products
4. Timber
5. Petroleum
6. Germany

France
1. 60
2. 7
3. Cereals
4. Textiles & Clothing
5. Machinery
6. Germany

Greece
1. 71
2. 27
3. Grains
4. Fruits
5. Mach. & Auto Equip.
6. Germany

Guatamala
1. 28

2. 5.7
3. Corn
4. Coffee
5. Manu. products
6. USA

Haiti
1. 1
2. 51
3. Coffee
4. Coffee
5. Consumer goods
6. USA

Honduras
1. 16
2. 62
3. Bananas
4. Bananas
5. Manu. goods
6. USA

Hungary
1. 71
2. 29
3. Corn
4. Mach. & tools
5. Mach. & raw materials
6. USSR

Iceland
1. .5
2. 11
3. Livestock
4. Fish
5. Petroleum prod.
6. USA

India
1. 60
2. 67
3. Rice
4. Diamonds
5. Mach. & Trans. equip.
6. USA

Indonesia
1. 18
2. 55
3. Rice
4. Petroleum
5. Rice
6. Japan

Iran
1. 35
2. 33
3. Wheat
4. Petroleum
5. Machinery
6. Japan

Iraq

1. 22
2. 44
3. Dates
4. Petroleum
5. Manufactured goods
6. France

Ireland
1. 85
2. 13
3. Cattle & Dairy products
4. Livestock
5. Grains
6. UK

Israel
1. 62
2. 6
3. Citrus,Other fruits, veg.
4. Polished diamonds
5. Rough diamonds
6. USA

Italy
1. 59
2. 10
3. Grapes
4. Engineering
5. Engineering
6. Germany

Ivory Coast
1.
2. 85
3. Coffee
4. Coffee
5. Raw materials
6. France

Japan
1. 15
2. 8
3. Rice
4. Mach. & equip.
5. Fuels
6. USA

Jordan
1. 20
2. 4
3. Wheat
4. Phosphates
5. Petroleum
6. USA

Kenya
1. 20
2. 11
3. Coffee
4. Coffee
5. Machinery
6. Western Europe

Laos
1. 7
2. 90
3. Rice
4. Electrical power
5. Rice
6. Thailand

Lebanon
1. 31
2. 11
3. Fruits
4. Fruits
5. Metals
6. USA

Liberia
1. 6
2. 71
3. Rubber
4. Iron ore
5. Machinery
6. USA

Libya
1. 9
2. 18
3. Wheat
4. Petroleum
5. Machinery
6. Italy

Malaysia
1.
2. 35
3. Rice
4. Natural rubber
5. Machinery
6. Japan

Mali
1. 2
2. 73
3. Millet
4. Livestock
5. Textiles
6. Western Europe

Mexico
1. 52
2. 26
3. Corn
4. Cotton
5. Machinery
6. USA

Mongolia
1. 1
2. 52
3. Livestock
4. Livestock
5. Mach. & equip.
6. USSR

Morocco
1. 5.7
2. 47
3. Barley
4. Phosphates
5. Capital Goods
6. France

Nepal
1. 17
2. 93
3. Rice
4. Rice & food products
5. Textiles
6. India

Netherlands
1. 60
2. 6
3. Wheat
4. Foodstuffs
5. Machinery
6. Germany

New Zealand
1. 2
2. 10
3. Wool
4. Meat
5. Machinery
6. Japan

Nicaragua
1. 53
2. 44
3. Cotton
4. Coffee
5. Machinery
6. Mexico

Nigeria
1. 57
2. 55
3. Peanuts
4. Oil
5. Mach & Trans. equip.
6. UK

Norway
1. 3
2. 7
3. Dairy products
4. Oil
5. Machinery
6. UK

Pakastan
1. 25
2. 49
3. Wheat
4.
5. Food
6. USA

Panama
1. 24
2. 29
3. Bananas
4. Bananas
5. Petroleum
6. USA

Paraguay
1. 5
2. 44
3. Soybeans
4. Cotton
5. Fuels & lubricants
6. Argentina

Peru
1. 24
2. 37
3. Wheat
4. Copper
5. Machinery
6. USA

Philippines
1. 41
2. 50
3. Rice
4. Electrical equip.
5. Petroleum
6. USA

Poland
1. 49
2. 29
3. Grains
4. Coal
5. Mach. & equip.
6. Communist Bloc

Portugal
1. 44
2. 22
3. Grains
4. Cotton
5. Petroleum
6. Western Europe

Romania
1. 66
2. 28
3. Corn
4. Machinery
5. Machinery
6. USSR

Saudi Arabia
1. 2
2. 30
3. Dates
4. Petroleum & prod.
5. Manu. foods
6. USA

Somalia
1. 2
2. 30
3. Livestock
4. Livestock
5. Textiles
6. Saudia Arabia

South Africa
1. 12
2. 30
3. Corn
4. Gold
5. Motor vehicle parts
6. USA

Spain
1. 62
2. 19
3. Cereals
4. Fresh fruits
5. Mach. & trans. equip.
6. Western Europe

Sudan
1. 29
2. 80
3. Cotton
4. Cotton
5. Textiles
6. UK

Sweden
1. 7
2. 5
3. Dairy products
4. Machinery
5. Machinery
6. Norway

Switzerland
1. 26
2. 6
3. Cheese & dairy prod.
4. Elect. machinery
5. Transp. equip.
6. Germany

Syria
1. 76
2. 29
3. Cotton
4. Petroleum
5. Mach. & metal prod.
6. Italy

Taiwan
1. 30
2. 20
3. Rice
4. Textiles
5. Machinery
6. USA

Thailand
1. 38
2. 65
3. Rice
4. Rice
5. Mach. & transp. equip.
6. Japan

Tunisia
1. 49
2. 32
3. Wheat
4. Petroleum
5. Mach. & equip.
6. France

Turkey
1. 46
2. 56
3. Cotton
4. Cotton
5. Crude oil
6. Germany

Uganda
1. 51
2. 90
3. Coffee
4. Coffee
5. Petroleum
6. USA

USSR
1. 27
2. 23
3. Wheat
4. Petroleum
5. Grain
6. Soviet Bloc

United Kingdom (UK)
1. 30
2. 1.7
3. Wheat
4. Machinery
5. Foodstuffs
6. Western Europe

United States (USA)
1. 21
2. 2.7
3. Corn
4. Machinery
5. Crude petroleum
6. Canada

Uruguay
1. 86
2. 11
3. Livestock
4. Meats
5. Crude petroleum
6. USA

Venezuela
1. 24
2. 16
3. Rice
4. Petroleum
5. Ind. Mach. & Equip.
6. USA

Vietnam
1. 23
2. 70
3. Rice
4. Agri. products
5. Petroleum
6. USSR

Yugoslavia
1. 56
2. 22
3. Corn
4. Leather goods
5. Machinery
6. USSR

Zimbabwe
1. 19
2. 74
3. Tobacco
4. Gold
5. Machinery
6. South Africa

A Student Activity for
Infusing an International Perspective
into
Units of Instruction in
Agriculture

The Global Market
-An Educational Game-

Purpose

The main purpose of this student activity is to help students to learn more about the metric system, map reading and currency exchange and how these issues impact international trade

2 5

Global Market
-An Educational Game-

Plan of Action

Student Performance Objectives:

1. Calculate using the metric system - i.e. convert ounces to grams and kilograms
2. Locate selected countries and regions on world maps
3. Calculate exchange of currency using currency exchange rates of various countries.

Procedures for Instruction:

To introduce students to the world of "metric". In addition, this activity helps students become more aware of locations of countries and some of the economics of marketing.

The Global Market is divided into three levels of play: **Beginning** (basic weight conversion from ounces to grams and kilograms), **Intermediate** (inclusion of the global awareness cards - G.A.C.) and **Advanced** (international currency exchanges). It is strongly recommended that you allow the students to begin at the beginning and when they feel comfortable with the metric conversions, move on to the intermediate play and then the advanced play.

To introduce simple weight conversions from ounces and pounds to grams and kilograms, an activity sheet has been included in this packet.

Instructions for play are included in this packet.

Once the students are ready for the advanced play, let them find the exchange rates by searching through the daily newspaper and/or watching the national news for the current exchanges. Some currencies are not readily found, in particular, the Russian ruble and the Tanzanian shilling and possibly Argentina's austral so ranges are given in the instructions. Let the banker set the prices and have each player calculate their own currency rates. An activity sheet to assist them in the calculations is included in this packet.

As an additional activity, you may have each class find and color in the countries mentioned as they play the game, or re-identify the location of the country if previously colored.

Materials Needed for Instruction:

1. To introduce the metric system, you may want to begin with the metric activity sheet included in this packet.
2. To prepare the Global Market you should photocopy the master board or enlarge it and put it on poster board. In addition, you should photocopy the masters of the:
    - Buying cards - (color code if possible) 2 of each sheet, cut them up and place in envelops with the product name on the front.
    - The fruit basket worksheets - at least one per student

The Global Awareness cards - copy each sheet, cut them up and tape them to index cards (3x5)
The currency sheets (at least four per student of each currency sheet) color code if possible
The players - you may want to put them on cardboard so they stand up easily.

3. It is strongly recommended that you have a globe or world map available for student use.
4. Other materials needed:
   1 die per board or your own homemade spinner (1-6)
   calculators
   index cards
   pencils with erasers

Evaluation Activities and/or Questions:

1. The impact of this activity can be measured through objective and subjective means including:
   Metric conversion test
   Essay questions on current happenings and their potential effect on agriculture
   Class discussion or debates
   Recording the U.S. and international market prices and currency changes for a specified time.
   Calculations of currency exchanges

References:

It is recommended that you incorporate new global awareness cards as world events change - or have the students do it as an activity.

References that might help:
Newspapers with market information
Magazines, i.e. National Geographic, Global Agriculture, Time, U.S. News and World Report,etc.

Global Market

Instructions for Playing The Game:

Goal:

The goal of the educational game is to make as many 5 to 5.2 kilogram fruit baskets as you can while you move around the globe. Each basket must contain at least six different category items (ie: apples, oranges, bananas, grapefruit, tea sampler and candies.) Any basket not containing the needed variety will not be sold and you will have lost your investment.

The baskets will be sold at the end of the game at a set price and the person or team earning the most is the winner. Everyone is a winner in the game, however, in that each player will learn how to calculate using the metric system, develop skills in marketing and converting currency.

Spend wisely!

Suggested Strategies/Things to Remember:

1. Every basket does NOT have to contain the same exact 6 items, so extras can be put together to make up another type of basket. Just stay within the weight and item guidelines.
2. Excess weight is penalized, because you lose profit
3. Beginning with your initial category items, choose the lowest number of items and make that your initial fruit basket goal, (see sample fruit basket worksheet).
4. REMEMBER: use pencil with an eraser, you'll be buying and selling throughout the game and your numbers will change.
5. Utilize the basket worksheet throughout the game, keeping track of where you are and what you still need number and weight wise.
6. It might help you to know the ranges of weights (per item), range of numbers you can buy at one time and range of prices. These ranges are presented below:

Item	Number Range	Weight Ranges		Cost Ranges
		gms	ounces	
Peaches	50 - 200	162 -180	5.0 - 7.0	$6.00 - $21.00
Apples	100,250,500	114 - 196	4.0 - 7.0	$7.00 - $20.00
Bananas	25,50,75,100	160 - 170		$1.00 - $5.50
Oranges	50 - 200	190 - 230	7.0 - 8.0	$6.00 - $22.00
Grapefruit	25,50,75,100	336 -384	12.0 - 13.0	$6.00 - $25.00
Nectarines	50 - 200	112 - 125	3.0 - 4.5	$6.00 - $11.00
Pears	50 - 150	131 -156	4.4 - 4.6	$5.00 - $21.00
Grapes (bunches)	20 - 40	375 - 414	13.0 - 15.0	$10.00 - $19.00
Cheese	20,25,30,35,40	45 - 55	.3 - 1.8	$2.00 - $10.00
Coffee Samplers	10 - 50	50 - 52		$1.00 - $5.00
Tea Samplers	10 - 50	40 - 45		$0.50 - $5.00
Candies	25,50,75,100	6 - 9	.27 - .3	$1.00 - $4.50

Challenge:

Basic Play: The basic challenge is to work within the metric system, but since the U.S. uses ounces and pounds, you'll have to convert U.S. products to grams and kilograms.
Intermediate play: Once you feel comfortable with the basic play you can add the Global Awareness Cards which when you land on that spot and read the card, may affect the pricing of one of your products.
Advanced play: Once you feel comfortable with the intermediate play, take the ultimate challenge and play with other currencies. U.S. dollars are not used in this part -- only the currency of the country you represent. You'll have to watch the currency market so you'll be up-to-date on the values of the major international currencies.

Certain currency rates may be difficult to find. As of August, 1990, the Russian ruble was ranging between 5,000 and 5,600 per U.S. dollar and the Tanzanian shilling was 200 per U.S. dollar. These rates were obtained from the respective embassies in Washington, D.C. It will be up to the banker to set the rate for that day if these currencies are not listed in the newspaper.

**Option: $5.00 bonus (or equivalent currency amount) for locating the country (other than the United States) that is selling the product. In the case of G.A.C. when another country is also named, an additional $3.00 may be added for identifying the second country. A time limit of 30 seconds is suggested.

Players:

From two to eight (one serving as banker and the others representing countries) can play individually or teams can be created to include more, but don't forget, you can always make more copies.

The seven countries represented include Tanzania, Russia, Argentina, Japan, Britain, Germany and France.

To Begin Play:

1. Set up the board and choose your "player"(game piece). Place your player on the start position for your country.
2. Separate the buying cards by category and place them in an envelope with the category name showing, ie: coffee, tea, apples, oranges, etc.
3. The banker should take out one buying slip per item per player, ie: if 7 people are playing, the banker should take out 7 teas, 7 coffees, 7 oranges, 7 grapefruit, etc. until all 11 categories are represented in the pile. The pile should be mixed up and without sorting them, present each player with:

   basic play: 6 buying slips and $25.00
   intermediate play: 5 buying slips and $35.00
   advanced play: 4 buying slips and $50.00

   After presenting each player with their buying slips, the banker can store the remaining ones and replace them in their respective envelopes for future use while everyone else begins listing their items on their basket worksheet.
4. Roll the die to see who goes first, highest wins.
5. Roll the die to see how many spaces to advance, the first player determines the movement for the game, either clockwise or counterclockwise and everyone else

must follow suit although, you may go back and forth between the outer and inner fields of play on the bridges.

6. The player to the left of the first is the next to play and so on.
7. The banker must keep track of the number of rounds of play (each person having an opportunity to roll at least once per round -- see Bonus roll.) At the end of 20 rounds (you can vary it, but set it at the beginning of the game), everyone must attempt to return to their home country as fast as possible, but are still subject to the space markings. The first person reaching home will end the game and they'll receive a $100 bonus. Now its time to finish your basket calculations and see who really won. (Refer back to strategies).

Space Markings and Their Meanings:

Start:

Each country player begins on their own starting place, BUT if another player should land on your start in the course of a game, they may buy one product item from you for 10% less than the base buying price (your gift to them for visiting you). They will choose the category (ie: oranges) and you choose which one to give them at the discounted price (ie: you may have a "250 oranges" card and a "100 oranges" card. It is your decision as to which one to offer them.) After calculating the price, the person may decline the offer to buy. Whether to buy or not, the turn is over for the time being.

On their next turn, the person should roll the die and then may "fly" on the company jet to ANY of the airports on the outer ring of the board and then move the appropriate number of spaces (counting the airport as one) or may just continue on the inner ring moving the number of spaces as dictated by the roll of the die.

Lose a Turn:

You're out for the time being, but don't despair, you'll be back in play with your next roll of the die.

Buying Opportunity:

This is your big chance! You may buy any category product you'd like, but the amount is left up to chance. (Refer to range listings.) Choose your category and calculate the price if necessary (see Global Awareness). You may choose to decline the purchase and play moves to the next person unless you're on a Bonus Roll (see Bonus Roll).

Selling Opportunity:

Short on cash, or just wanting to get rid of some extras -- this is your chance! The base selling price is 10% less than the base buying price (you held on to it and the quality dropped a bit). You must sell the whole slip, ie: if you wanted to sell oranges and the slip said 75, you cannot just sell 30 and keep 45, you'll have to sell the whole box. You don't have to sell anything and that ends your turn unless you're on Bonus roll (see Bonus roll).

Buy or Sell/GAC:

You must either buy an item or sell an item. In intermediate and advanced play, the GAC(Global Awareness Cards) are included and the item has already been chosen -- but you still decide whether you buy it or if you have some extra, sell it. In a few cases, the GAC may affect everyone and may not specifically involve a purchase. In this case, after the banker has collected, you choose the item you want to buy or sell.

Bonus Roll:

Use it as a buying or selling opportunity and then roll again!

Airport (outer ring only):

The airport marking will take you back to the inner ring. If you are in the outer ring and pass an airport, you may travel directly down to the start position related to that airport (counting one space for the move) and then continuing on either way. (If you only have one move left and land on the start, it does apply to you - refer to start space marking).

If you land directly on an airport, you may travel to any of the start positions on the inner ring (without rolling the die) and since you're visiting that country, the Start spacing will relate to you (Refer to Start Space Marking).

Ending the Game:

The banker must keep track of the number of rounds of play (each person having an opportunity to roll at least once per round -- see Bonus roll). At the end of 20 rounds (you can vary it, but set it at the beginning of the game), everyone must attempt to return to their home country as fast as possible, but are still subject to the space markings (if you land on any airport in the outer ring, you may fly right home). The first person reaching home will end the game and receive a $100 bonus.

Each player or country team must calculate the number of fruit baskets he/she could make staying within the specified limits: 5.0 to 5.2 kilograms (kg.), each having at least six different items (ie: 2 oranges at two different weights are NOT considered 2 different items). Each basket will sell for $35.00 each. Calculate your basket income and mark it on your basket worksheet. Deduct $0.70 for every 100 gms (or major portion) over 5.2 kg because that's how much you'd lose in revenue for going over too far. If the basket items do NOT weigh at least 5.0 kg, you've lost it all because the Department of Weights and Measures will take your license away.

Total up any remaining cash you have and include it on your worksheet.

Calculate the Grand total and find out who won!

Metric Weights in Review

To convert from the Imperial system (British) to Metric in small weight measure, simply multiply the ounce weight by 28 grams. (Your teacher may give you a more exact figure, but 28 is the rounded off conversion number). Grams to kilograms -- just divide by 1000.

Example 1, 28 ounces = 784 grams (28 x28 = 784 grams)
Example 2, 784 grams = .784 kilograms (728/1000 = .784 kg)

Notice: When changing from gms to kg or vice versa, the numbers remain the same.

See how easy metric can be! But if asked to convert 28 ounces into pounds, can you do it as quickly?

Convert to grams:

a. 3 ounce apple = _____
b. 39 ounces grapes = _____
c. 4 ounce orange = _____
d. 4.2 ounce banana = _____
e. 5.7 ounce nectarine = _____

Convert to kilograms: (two step process)

a. 4 ounce pear =
b. 5.2 ounce peach =
c. 23 ounces grapes =
d. 14.4 ounces cheeses =
e. 8.2 ounce orange =
f. 13.3 ounce grapefruit =

Convert the following kilograms to grams:

a. 3.9 kg oranges = _________
b. 4.5 kg fruit basket = _________
c. 2.34 kg apples = _________
d. 4.59 kg fruit basket = ________
e. 3.76 kg peaches = _________
f. 4.567 kg grapefruits = _______

BONUS:
Without knowing the conversion for pounds to kilograms, can you figure out the following?

a. 1.3 lbs pears

b. 3.5 lbs coffee samplers

c. 4.5 lbs peaches

d. 3.8 lbs tea samplers

Answer Key

Metric Weights in Review

To convert from the Imperial system (British) to Metric in small weight measure, simply multiply the ounce weight by 28 grams. (Your teacher may give you a more exact figure, but 28 is the rounded off conversion number). Grams to kilograms -- just divide by 1000.

Example 1, 28 ounces = 784 grams (28 x28 = 784 grams)
Example 2, 784 grams = .784 kilograms (728/1000 = .784 kg)

Notice: When changing from gms to kg or vice versa, the numbers remain the same.

See how easy metric can be! But if asked to convert 28 ounces into pounds, can you do it as quickly?

Convert to grams:

a. 3 ounce apple = 84 b. 39 ounces grapes = 1094 c. 4 ounce orange = 112

d. 4.2 ounce banana = 117.6 e. 5.7 ounce nectarine = 159.6

Convert to kilograms: (two step process)

a. 4 ounce pear = *112 gm = .112 kg* b. 5.2 ounce peach = *145.6 gm = .1456 kg*

c. 23 ounces grapes = *755 gm = .755 kg* d. 14.4 ounces cheeses=*403.2 gm =.4032 kg*

e. 8.2 ounce orange =*229.6 gm =.2296 kg* f. 13.3 ounce grapefruit=*372.4gm= .3724 kg*

Convert the following kilograms to grams:

a. 3.9 kg oranges = .0039 b. 4.5 kg fruit basket = .0045

c. 2.34 kg apples = .00234 d. 4.59 kg fruit basket = .00459

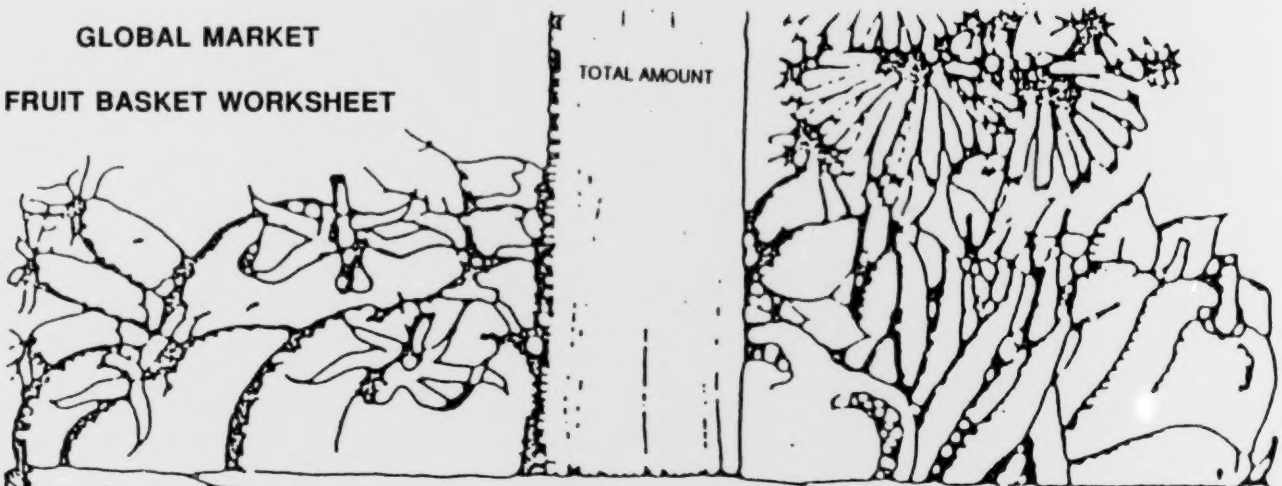
e. 3.76 kg peaches = .00376 f. 4.567 kg grapefruits = .004567

BONUS:
Without knowing the conversion for pounds to kilograms, can you figure out the following?

a. 1.3 lbs pears
1.3 lbs x 16 ounces = 20.8 ounces x 25 = 582.4 gm = .5824 kg
b. 3.5 lbs coffee samplers
1.12 kg
c. 4.5 lbs peaches
2.0608 kg
d. 3.8 lbs tea samplers
1.7024 kg

GLOBAL MARKET

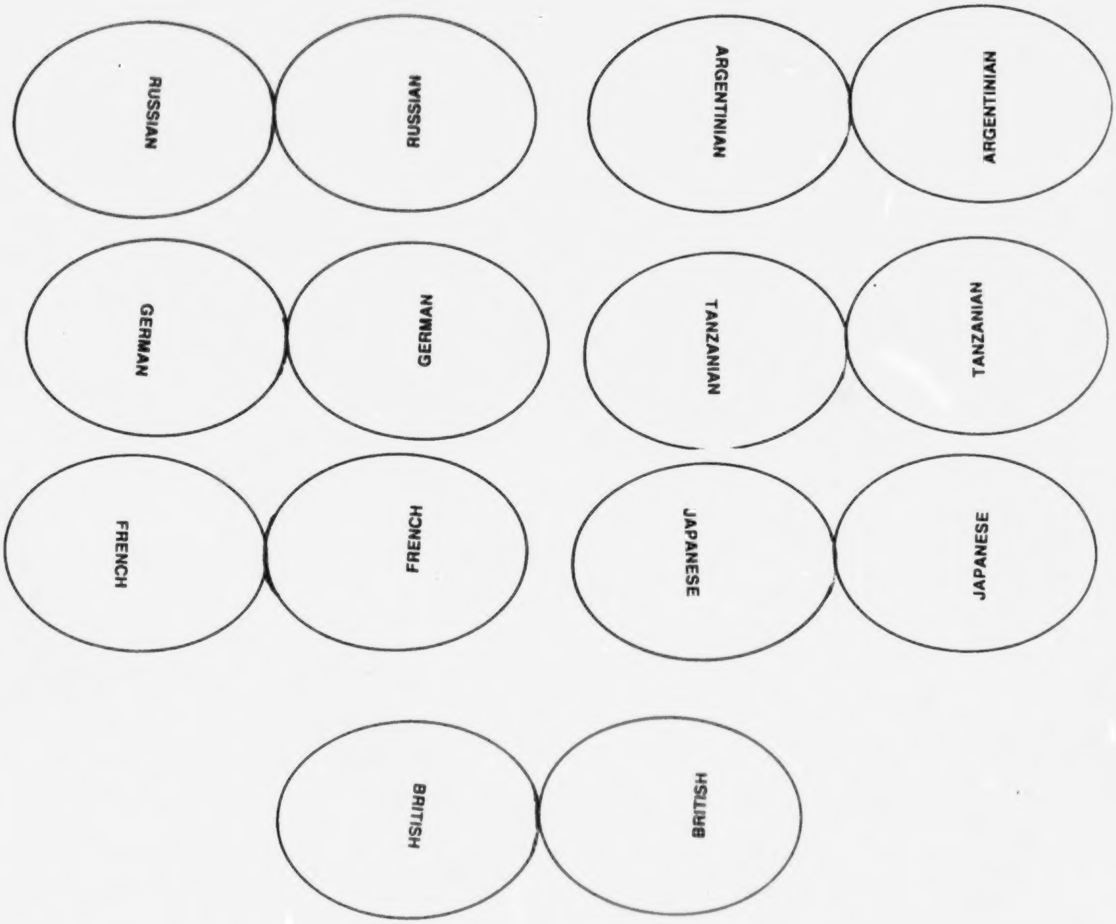
FRUIT BASKET WORKSHEET



ITEMS:	NUMBER TO BE INCLUDED PER BASKET	WEIGHT PER PIECE:	TOTAL WEIGHT OF ITEM FOR THE BASKET
1.			
2.			
3.			
4.			
5.			
6			
7.			
8.			
		TOTAL	

Player Pieces

You may want to use these as folding pieces or as flat pieces. It may help to put these pieces on cardstock paper.



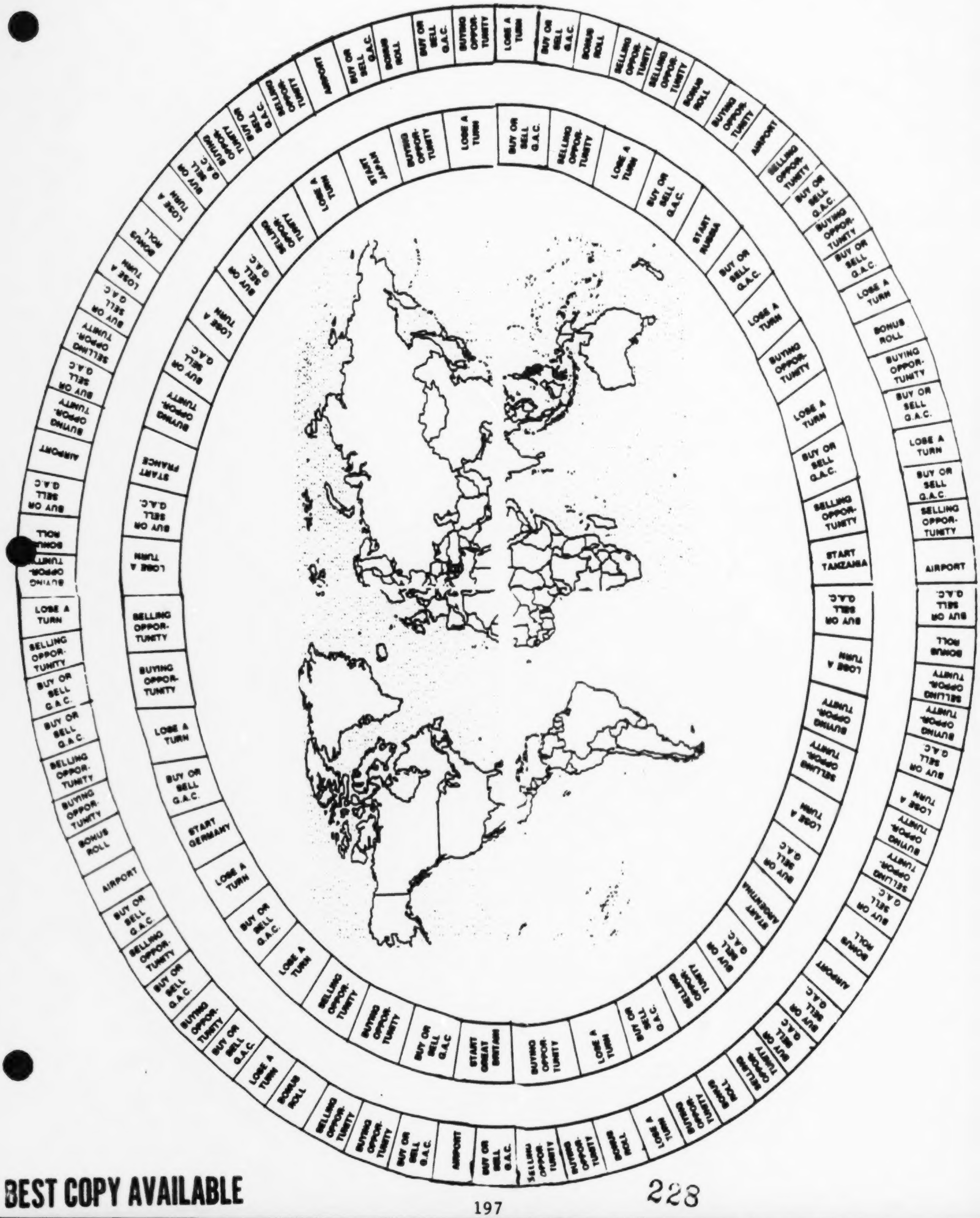
Global Market

••An Educational Game••

GAME BOARD

Instructions/Suggestions:

You may want to enlarge the game board on a copy machine to use with several students at a time.



BEST COPY AVAILABLE

GLOBAL MARKET FRUIT BASKET

TOTALS: All baskets must contain at least six different items and must weight 5.0 kg. or more: _____ x $35.00 = $______(A)

If any of the baskets exceed 5.25 kg, you've lost profit money! Deduct $0.70 for every .1 kg per basket over 5.25 kg.

weight of average basket A: _________kg

-5.25 kg

____

If over .05kg, multiply the number by $-0.70 = ________ x -.7 = $-______(B)

Subtract B from A for your subtotal: Subtotal: $______(C)

Remaining Cash: $______(D)

- -

Final Total: Add (C) and (D) together: $________

BASKET GOAL: _______

(Work in pencil -- you'll want to be able to change numbers.)

ITEMS:	TOTAL AMOUNT AVAILABLE:	WEIGHT PER PIECE GRAMS	NUMBER TO BE INCLUDED PER BASKET	TOTAL WEIGHT OF ITEM FOR THE BASKET	GRAMS STILL NEEDED:

EXTRAS : NUMBER OF EXTRAS: WEIGHT PER PIECE:

Global Market

••An Educational Game••

GLOBAL AWARENESS CARDS

Instructions/Suggestions:

You may want to enlarge these cards and put them on cardstock paper or note cards.

A PESTICIDE SCARE IN THE U.S. TURNS ALL OTHER BUYERS AWAY FROM U.S. **ORANGES** ONLY -- THE OVERSUPPLY DROPS THE PRICE OF U.S. ORANGES BY 20%, BUT RAISES THE PRICES OF ALL OTHER ORANGES BY 15%. IT'S YOUR DECISION AS TO WHICH WAY TO GO.

PANAMA'S **BANANA** HARVEST IS EXTREMELY POOR THIS YEAR AND THE LOW SUPPLY MEANS A HIGHER PRICE. PRICE INCREASES BY 30% AND IT AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

ST LUCIA'S **BANANA** HARVEST IS EXCELLENT THIS YEAR AND THE MARKET IS FLOODED, THE PRICE DROPS BY 10%. THE PRICE DIFFERENCE AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

HAITIAN **COFFEE** IS HIGHLY SOUGHT AFTER AND IT AFFECTS THE MARKET ALL AROUND. HAITIAN COFEE RISES BY 30% IN PRICE AND ALL THE REST DROPS BY 10%. THE DECISION TO BUY OR SELL IS LEFT TO YOU.

HONDURUS'S **BANANA** CROP WAS EXCELLENT THIS YEAR AND PUT INTO STORAGE SO IT WOULDN'T FLOOD THE MARKET -- BUT ELECTRICITY IS NOT DEPENDABLE AND THE COOLING CONTAINERS GO OFF ALLOWING THE BANANAS TO RIPEN QUICKLY. THEY ARE IMMEDIATELY PUT ON THE MARKET FOR EMERGENCY SALE AND THE EFFECT IS DEVASTATING FOR ALL BANANA SALES. PRICES DROP BY 50%.

DOMINICAN REPUBLIC HAD AN EXCELLENT **BANANA** HARVEST AND THEY'RE PUTTING IT ON THE MARKET VERY SLOWLY. THE EFFECT IS A HIGH DEMAND WITH A SLIGHTLY LOWER SUPPLY WHICH MENAS AN INCREASE IN PRICE BY 10%.

GUINEA-BISSAU WANTS MORE **PEACHES** IN THEIR DIET AND THEIR DESIRE CREATES A SLIGHT SHORTAGE INCREASING THE PRICE BY 5%.

MONACO WANTS THE SWEET TASTE OF **NECTARINES** AND ARE WILLING TO PAY THE PRICE. THE NEW DEMAND MEANS A SMALLER SUPPLY AND AN INCREASE IN PRICE BY 20%.

THE BAHAMAS HAD A GREAT **NECTARINE** HARVEST, BUT DESPARATELY WANT TO SELL AS MANY AS THEY CAN BECAUSE THEY'VE RUN OUT OF STORAGE SPACE. THE NEW SUPPLY MEANS TOO MUCH AT ONCE ON THE MARKET AND THE PRICE DROPS BY 10%.

ST. CHRISTOPHER AND NEVIS ISLANDS DESIRE MORE **NECTARINES** IN THEIR DIET AND ARE WILLING TO PAY A HIGER PRICE. THEIR INCREASED DEMAND MEANS A SLIGHTLY HIGHER PRICE. THE PRICE GOES UP BY 5%.

THE GRENADINES **BANANA** HARVEST IS EXCELLENT AND **BANANAS** ARE HIGHLY SOUGHT AFTER ON THE WORLD MARKET. SEEING THEIR CHANCE TO SLOWLY PUT THEIR SUPPLY ON THE MARKET THEY CREATE A SMALL SHORTAGE AND CAUSE AN INCREASE IN PRICE OF 10%.

BRAZIL'S **COFFEE** HARVEST WAS EXCELLENT, BUT THE ROASTING PROCESS FAILED AND THE COFFEE BEANS ARE DESTOYED. A LACK OF SUPPLY CAUSES AN INCREASE IN PRICE BY 15%.

PARAQUAY WANTS MORE **APPLES** THAN THEY CAN PRODUCE SO THEY BOUGHT AS MANY AS THEY COULD EFFECTING AN INCREASE IN PRICE OF 15%.

IN ECUADOR, THE **BANANA** HARVEST WAS EXCELLENT AND ECUADORIAN BANANAS ARE HIGHLY SOUGHT AFTER – ECUADOR HOLDS BACK KEEPING THE BANANA SUPPLY LOW AND INCREASING ALL BANANA PRICES BY 20%.

THE COLUMBIAN **COFFEE** HARVEST WAS A DISASTER THIS YEAR AND THE EFFECT IS FELT ON THE WORLD MARKET AS PRICES JUMP BY 30%.

CHILE'S SUGAR HARVEST WAS VERY POOR THIS YEAR AND WITHOUT IT, THE SUPPLY IS EVEN LOWER. THE PRICE AFFECTS **CANDY** PRICES AND IT'S PASSED ONTO YOU – AN INCREASE OF 5%.

TUVALU WANTS MORE **APPLES** AND ARE WILLING TO PAY THE PRICE. THEIR WILLINGNESS TO BUY ALL THE APPLES THEY CAN INCREASES THE PRICE OF APPLES BY 5%.

PRICE DROPS IN CHEESE BY 5%, AND IT AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

ROMANIA DESIRES MORE **GRAPEFRUIT** IN THEIR DIET AND ARE WILLING TO PAY THE PRICE. THE INCREASED DEMNAD FOR THE LIMITED SUPPLY MEANS A PRICE INCREASE OF 10%.

PORTUGAL WANTS ALL THE **GRAPES** IT CAN GET AND THE INCREASED DEMAND MEANS A HIGHER PRICE FOR THE LIMITED SUPPLY. PRICE INCREASES BY 5%

A FREEZE IN FLORIDA DESTROYS THE GRAPEFRUIT HARVEST. THE LOW SUPPLY AND HIGH DEMAND INCREASE THE PRISE BY 20% AND AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

IN CANADA THE DEMAND FOR **APPLES** DROPS AND AN OVERSUPPLY IS SHIPPED OUT FLOODING THE MARKET CAUSING THE PRICE TO RISE BY 15%. PRICE INCREASE AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

THE SEYCHELLES DESIRE THE SWEET **GRAPES** AND ARE WILLING TO PAY THE PRICE. THE PRICE INCREASES BY 5%.

SOUTH YEMEN DESIRES MORE **CHEESE** IN THEIR DIET AND THE MARKET SUPPLY IS ALREADY LIMITED. THE PRICE INCREASES BY 5%.

SWEDEN IS TRYING TO SELL ALL THE **CHEESE** IN STORAGE AS SOON AS POSSIBLE AND THEY DON'T MIND A LOSS IN PROFITS, BUT IT AFFECTS THE WHOLE MARKET AND THE PRICE DROPS BY 15%.

BOTSWANA'S **TEA** HARVEST WAS POOR AND THEY NEED SOME. THEIR NEED CREATES A SLIGHT SHORTAGE AND THE PRICE RISES BY 10%.

TURKEY'S **TEA** HARVEST WAS EXCELLENT, BUT IT FLOODED THE MARKET AND CAUSED THE PRICES TO DROP BY 10%

NICARAGUA WANTS MORE **TEA** AND CAN'T SEEM TO GET ENOUGH. THEIR DESIRE FOR MORE CAUSES A SLIGHT SHORTAGE AND PRICES RISE BY 10%

KAMPUCHEA HAD AN EXCELLENT **TEA** HARVEST THIS YEAR, BUT LACK OF STORAGE FACILITIES NECESSITATES DUMPING THE EXCESS ON THE WORLD MARKET. THE INCREASE IN SUPPLY DECREASES THE PRICE BY 10%.

CYPRUS WANTS MORE **PEACHES** IN THEIR DIET AND THEIR DESIRE CREATES AN INCREASED DEMAND WHICH MEANS A PRICE INCREASE OF 10%.

GERMANY'S **GRAPE** HARVEST WAS EXTREMELY RICH THIS TEAR, BUT THEY CAN'T USE IT ALL SO THEY FLOODED THE WORLD MARKET AND IT DROPPED THE PRICE BY 15%. IT AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

BELGIUM EXPERIENCED MAJOR FLOODS THIS YEAR WHICH DESTROYED THEIR **GRAPE** CROP, DEMAND IS STRONG AND SUPPLY SHORT -- IT EQUALS A 15% INCREASE IN THE PRICE OF GRAPES. IT AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

MAJOR DISEASE OUTBREAK IN NORWEGIAN DAIRY HERDS, THE MILK CAN'T BE SAVED. WITHOUT NORWAY'S **CHEESE** ON THE WORLD MARKET, THE SUPPLY IS TOO LOW FOR THE DEMAND AND THE PRICES RISES BY 10%. IT AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

IN ITALY IT WAS AN EXCELLENT YEAR FOR **GRAPES** – THE SUGAR CONTENT WAS JUST RIGHT AND ITALIAN WINERIES, OPTIMISTIC ABOUT THEIR HARVEST WENT ON TO THE WORLD MARKET AND BOUGHT AS MUCH AS THEY COULD. THE PRICE ROSE BY 10% DUE TO THE UNUSUAL DEMAND.

BOLIVIA WANTS MORE **APPLES** IN THEIR DIET AND BUY AS MUCH AS THEY CAN. THIS CREATES A TEMPORARY SHORTAGE AND INCREASES THE PRICE BY 5%.

VAUATU WANTS MORE **PEARS** AND THEY'RE WILLING TO PAY THE PRICE. THE PRICE ON PEARS INCREASES BY 10% DUE TO THE INCREASED DEMAND.

PERU HAS A DESIRE FOR MORE **PEARS** IN THEIR DIET AND THE INCREASED DEMAND CREATES A TEMPORARY INCREASE IN PRICE BY 5%.

KUWAIT DESIRES MORE **ORANGES** IN THEIR DIET AND THEIR WILLINGNESS TO PAY A HIGHER PRICE CAUSES A PRICE INCREASE OF 10%.

FINLAND WANTS MORE **ORANGES** IN THEIR MARKETPLACE AND THE INCREASED DEMAND CREATES A SLIGHT SHORTAGE IN SUPPLY INCREASING THE PRICE BY 15%.

VATICAN CITY DESIRES MORE **GRAPEFRUIT** FOR THEIR DIET AND THE DEMAND CREATES A SLIGHT SHORTAGE INCREASING THE PRICE BY 10%.

ANDORRA IS INTERESTED IN ALL THE **PEARS** AVAILABLE AT ANY PRICE -- PRICE INCREASES BY 20% WHETHER YOU'RE BUYING OR SELLING.

CZESHOSLAVAKIA AGGRESSIVELY BUYS UP **GRAPES** INCREASING THE PRICE BY 10% WHETHER YOU'RE BUYING OR SELLING.

YUGOSLAVIA AGGRESSIVELY SEEKS **APPLES** AND THE PRICE INCREASES BY 15% WHETHER YOU'RE BUYING OR SELLING.

DENMARK OVER PRODUCED ITS **CHEESE** FOR EXPORT AND IT WANTS TO GET RID OF THE EXCESS FAST. PRICE DROPS BY 15% WHETHER YOU'RE BUYING OR SELLING.

SPAIN HAS AN EXCELLENT **PEAR** HARVEST BUT SO DID EVERYONE ELSE. THE MARKET IS FLOODED AND THE PRICE DROPS BY 15% WHETHER YOU'RE BUYING OR SELLING.

THE NETHERLAND'S **APPLE** CROP WAS EXCELLENT, BUT TOO MUCH HIT THE MARKET AT ONCE. THE PRICE DROPS BY 10% AND IT AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

IRELAND'S FOOD HARVEST WAS EXCELLENT, BUT A DESIRE FOR **GRAPEFRUIT** MAKES ITS BUYERS AGGRESSIVE. THE BUYERS PURCHASE AS MUCH AS POSSIBLE CAUSING THE PRICE TO RISE 10% AND IT AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

BEST COPY AVAILABLE

DROUGHT IN KENYA! **COFFEE** PRICES HAVE SKYROCKETED -- IF YOU DON'T HAVE ANY AND PLAN TO BUY SOME, IT WILL BE 30% MORE THAN THE ORIGINAL PRICE.

OPEC HAS STOPPED ALL OIL SHIPMENTS FOR A MONTH. THE EMBARGO **AFFECTS EVERYONE!** AT THE NEXT BUYING OPPORTUNITY FOR EACH PLAYER, THE PRICE OF WHATEVER THEY WANT WILL INCREASE BY 20% OR THEY'LL LOSE AN ADDITIONAL 20% IF THEY'RE SELLING.

RAIN IN CHAD THIS YEAR MEANT AN EXCELLENT SUGAR HARVEST AND THE MARKET WAS FLOODED. THE DECREASE IN PRICE IS PASSED ON TO YOU IF YOU BUY **CANDIES**. THE PRICE DROPS BY 5% IF YOU'RE BUYING OR SELLING.

A MAJOR DISASTER IN GHANA HAS RUINED THE COCOA EXPORTS AND THE PRICE OF **CANDIES** HAVE INCREASED BY 5% WHETHER YOU'RE BUYING OR SELLING.

A MAJOR SHIPMENT OF **ORANGES** FROM ZAIRE WAS MISDIRECTED AND FLOODED THE NEW YORK MARKET, THE PRICES DROPPED BY 10% WHETHER YOU'RE BUYING OR SELLING.

FLOODING IN CAMEROON AFFECTS THE COCOA HARVEST, THE PRICE SKYROCKETS BY 15% FOR **CANDIES** WHETHER YOU'RE BUYING OR SELLING.

THE UNITED NATIONS IN AN EFFORT TO SAVE THE ELEPHANT IS ASKING **ALL COUNTRIES** TO CONTRIBUTE .1% OF THE VALUE OF ALL YOUR CURRENT PRODUCTS. ADD UP THE VALUES, MULTIPLY BY .001 AND PAY THE BANKER. IF YOU'RE CASH POOR AND PRODUCT RICH, YOU CAN SELL A FEW PRODUCTS TO COME UP WITH THE NEEDED MONEY.

SENEGAL HAD A VERY POOR CITRUS HARVEST AND IS IN THE MARKET FOR AS MUCH **CITRUS** AS POSSIBLE. THEIR WILLINGNESS TO PAY HIGHER PRICES FOR THE LIMITED SUPPLY HAS DRIVEN THE PRICE OF ALL CITRUS PRODUCTS UP BY 10% . (THIS WILL ONLY AFFECT ONE CITRUS SALE OR BUYING OPPORTUNITY FOR YOU).

AN EXCELLENT SUGAR HARVEST IN SWAZILAND TEMPORARILY FLOODS THE MARKET AND THE **CANDY** MANUFACTURES PASS THE SAVINGS ON TO YOU -- A 10% DROP IN PRICE WHETHER YOU'RE BUYING OR SELLING.

THE PEOPLE OF MAURITIUS HAVE DEVELOPED A REAL TASTE FOR **NECTARINES** AND ARE WILLING TO PAY HIGHER PRICES -- HIGH DEMAND, LOW SUPPLY MEANS A 10% INCREASE IN THE PRICE WHETHER YOU'RE BUYING OR SELLING.

THE JAPANESE WANT MORE **GRAPEFRUIT** AND ARE WILLING TO PAY THE PRICE -- HIGH DEMAND AND LOW SUPPLY = 10% INCREASE WHETHER YOU'RE BUYING OR SELLING.

CHINA WANTS MORE **APPLES** IN THEIR MARKETPLACE -- A HIGHER DEMAND AND SMALL SUPPLY = 15% INCREASE IN PRICE WHETHER YOU'RE BUYING OR SELLING.

THE MONSOONAL RAINS CAME ON TIME IN INDIA AND THE **ORANGE** HARVEST WAS SUPERB. THE INCREASED SUPPLY FROM INDIA TEMPORARILY FLOODS THE MARKET SENDING PRICED DOWN BY 20% WHETHER YOU'RE BUYING OR SELLING.

WESTERN SAMOA'S COCOA HARVEST WAS EXCELLENT, BUT IT FLOODS THE MARKET -- LOWER COCOA PRICES MEAN LOWER **CANDY** PRICES -- 3% DECREASE IN PRICE WHETHER YOU'RE BUYING OR SELLING.

PAPAU NEW GUINEA AGGRESSIVELY BUYS UP ALL THE **NECTARINES** THEY CAN GET -- SHORT SUPPLY AND GREAT DEMAND MEANS A HIGHER PRICE -- 10% INCREASE WHETHER YOU'RE BUYING OR SELLING.

TONGA AGGRESSIVELY BUYS UP ALL THE **PEACHES** IT CAN GET -- HIGHER DEMAND AND LOW SUPPLY MEANS A PRICE INCREASE OF 10% WHETHER YOU'RE BUYING OR SELLING.

POLAND EXPERIENCES AN EXCELLENT YEAR IN **CHEESE** PROCESSING AND

SRI LANKA'S **TEA** HARVEST WAS EXCELLENT THIS YEAR, BUT TOO MUCH HIT THE MARKET ALL AT ONCE SO PRICES DROPPED BY 15%. THIS AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

PAKISTAN'S PEOPLE HAVE DEVELOPED A TASTE FOR **PEARS** -- SUPPLY IS LIMITED AND DEMAND HIGH, SO THE PRICE GOES UP BY 10% WHETHER YOU'RE BUYING OR SELLING.

THE PEOPLE OF BANGLADESH HAVE DEVELOPED A TASTE FOR **APPLES** -- DEMAND INCREASES, SUPPLY IS LIMITED = 15% INCREASE IN PRICE WHETHER YOU'RE BUYING OR SELLING.

AFGHANISTAN'S **PEACH** HARVEST WAS EXCELLENT THIS YEAR, BUT IT ALL CAME AT ONCE AND WAS NOT STORED PROPERLY -- EMERGENCY SALE DROPS THE PRICE BY 30% WHETHER YOU'RE BUYING OR SELLING.

THE MALDIVES SUDDENLY HAVE AN URGE FOR MORE SUGAR THAN USUALLY, THE SUDDENNESS CAUSES A SLIGHT FLUCUATION IN THE PRICE OF SUGAR AND RESULTS IN A 5% INCREASE IN THE PRICE ALL **CANDIES** WHETHER YOU'RE BUYING OR SELLING.

BHUTAN'S **NECTARINE** ENTERPRISE WAS EXTREMELY SUCCESSFUL THIS YEAR, BUT TIMING WAS OFF AND THE NECTARINES FLOODED THE MARKET CAUSING PRICES TO DROP 20%. IT AFFECTS YOU WHETHER YOU'RE BUYING OR SELLING.

LEBANON'S **PEACH** CROP WAS DESTRYED BY A LOCUST ATTACK -- LOW SUPPLY, HIGH DEMAND INCREASE THE PRICE BY 10% WHETHER YOU'RE BUYING OR SELLING.

SIERRE LEONE'S **COFFEE** HARVEST WAS AN EXTREMELY POOR ONE -- NO ONE WANTS IT, BUT THEY MUST GET RID OF IT -- THE EEFECT IS A DROP IN ALL COFFEE PRICES BY 30% WHETHER YOU'RE BUYING OR SELLING.

NAURU WANTS MORE **PEARS** IN THEIR DIET -- AGGRESSIVE BUYING MEANS A SLIGHTLY LOWER SUPPLY -- PRICES RISE BY 5% WHETHER YOU'RE BUYING OR SELLING.

FIJI'S SUGAR HARVEST WAS EXTREMELY POOR AND THE WORLD MARKET REFLECTS THE DECREASE IN SUPPLY -- DEMAND IS THE SAME, THEREFORE, THE PRICE OF **CANDIES** INCREASE BY 2% WHETHER YOU'RE BUYING OR SELLING.

BEST COPY AVAILABLE

Global Market

••An Educational Game••

BUYING CARDS

FRUIT AND PRODUCE CARDS

Location, Weight, and Price

Instructions/Suggestions:

You may want to enlarge these cards and put them on cardstock paper in different colors.

GRAPEFRUIT 25
from Cyprus
wt: 384.16 gm each
cost: $8.00

GRAPEFRUIT 50
from Cyprus
wt: 336 gm each
cost: $12.00

GRAPEFRUIT 75
from Cyprus
wt: 338.8 gm each
cost: $15.00

GRAPEFRUIT 100
from United States
wt: 12.2 ounces each
cost: $20.00

GRAPEFRUIT 25
from United States
wt: 12.3 ounces each
cost: $ 7.00

GRAPEFRUIT 50
from United States
wt: 12.4 ounces each
cost: $10.00

GRAPEFRUIT 75
from Cyprus
wt: 12.5 ounces each
cost: $ 14.50

GRAPEFRUIT 100
from Cyprus
wt: 352.8 gm each
cost: $22.00

GRAPEFRUIT 25
from United States
wt: 12.7 ounces each
cost: $6.00

GRAPEFRUIT 25
from Cyprus
wt: 384.16 gm each
cost: $9.00

GRAPEFRUIT 50
from Cyprus
wt: 338 gm each
cost: $13.00

GRAPEFRUIT 75
from Cyprus
wt: 338.8 gm each
cost: $16.00

GRAPEFRUIT 100
from United States
wt: 12.2 ounces each
cost: $21.00

GRAPEFRUIT 25
from United States
wt: 12.3 ounces each
cost: $6.50

GRAPEFRUIT 50
from United States
wt: 12.4 ounces each
cost: $11.00

GRAPEFRUIT 75
from Cyprus
wt; 12.5 ounces each
cost: $16.00

GRAPEFRUIT 100
from Cyprus
wt: 352.8 gm each
cost: $20.00

GRAPEFRUIT 25
from United States
wt: 12.7 ounces each
cost: $6.50

APPLES 100
from Washington State
wt: 6.8 ounces
cost: $8.00

APPLES 250
from Washington State
wt: 4.64 ounces
cost: $13.00

APPLES 250
from Washington State
wt: 4.88 ounces each
cost: $14.00

APPLES 500
from Washington State
wt: 4.0 ounces each
cost: $20.00

APPLES 100
from Washington State
wt: 6.88 ounces each
cost: $7.50

APPLES 500
from Washington State
wt.: 4 ounces
cost $19.00

APPLES 100
from Albania
wt: 196 gms each
cost: $9.00

APPLES 100
from Lebanon
wt. 196 gm each
cost: $8.50

APPLES 100
from Greece
wt: 193.2 gm each
cost: $ 8.00

APPLES 100
from Germany
wt: 193.2 gm each
cost: $8.50

APPLES 100
from Hungary
wt: 184.8 gm each
cost: $8.50

APPLES 100
from Denmark
wt: 184.8 gm each
cost: $7.75

APPLES 100
from Argentina
wt: 190.4 gm each
cost: $9.00

APPLES 100
from Iran
wt: 190.4 gm each
cost: $8.50

APPLES 250
from Norway
wt: 117.6 gm. each
cost: $14.00

APPLES 250
from Portugal
wt: 117.8 gm each
cost: $13.00

APPLES 500
from Ireland
wt: 114.8 gm each
cost: $20.00

APPLES 500
from Austria
wt: 114.8 gm each
cost: $19.50

ORANGES 100
from Spain
wt: 196 gm each
cost: $ 10.00

ORANGES 50
from Bhutan
wt: 198.8 gm each
cost: $7.00

ORANGES 75
from United States
wt. 7.2 ounces each
cost: $8.00

ORANGES 150
from Guyana
wt: 204.4 gm each
cost: $14.00

ORANGES 200
from United States
wt: 7.4 ounces each
cost: $20.00

ORANGES 100
from Brazil
wt: 196 gm each
cost: $12.00

ORANGES 50
from Cyprus
wt: 198.8 gm each
cost: $7.50

ORANGES 75
from United States
wt: 7.2 ounces each
cost: $9.00

ORANGES 150
from Zaire
wt: 204.4 gm each
cost: $15.00

ORANGES 200
from united States
wt: 7.4 ounces each
cost: $ 19.00

ORANGES 75
from United States
wt: 7.8 ounces each
cost: $8.00

ORANGES 50
from India
wt: 221.2 gm each
cost: $6.50

ORANGES 75
from United States
wt: 8.0 ounces each
cost: $8.50

ORANGES 100
from Tunisia
wt. 226.8 gm each
cost: $8.50

ORANGES 100
from Venezuela
wt: 229.6 gm each
cost: $10.00

ORANGES 150
from Kampuchea
wt: 207 gm each
cost: $14.50

ORANGES 250
from Korea
wt: 210 gm each
cost: $22.00

ORANGES 175
from United States
wt: 7.8 ounces each
cost: $16.00

ORANGES 200
from Libya
wt: 215.8 gm each
cost: $21.00

BEST COPY AVAILABLE

NECTARINES 100
from United States
wt: 3.9 ounces each
cost $7.00

NECTARINES 75
from China
wt; 112 gm each
cost: $5.00

NECTARINES 150
from Greece
wt: 114.8 gm each
cost: $8.50

NECTARINES 125
from United States
wt: 4.2 ounces each
cost: $8.00

NECTARINES 175
from China
wt: 120.4 gm each
cost: $9.00

NECTARINES 200
from Greece
wt: 123.2 gm each
cost: $11.00

NECTARINES 75
from United States
wt: 3.9 ounces each
cost: $4.50

NECTARINES 50
from United States
wt: 4.0 ounces each
cost: $4.00

NECTARINES 100
from United States
wt: 4.1 ounces each
cost: $6.50

NECTARINES 100
from United States
wt: 3.9 ounces each
cost; $8.00

NECTARINES 75
from China
wt: 112 gm each
cost $6.00

NECTARINES 150
from Greece
wt: 114.8 gm each
cost: $9.00

NECTARINES 125
from United States
wt: 4.2 ounces each
cost: $ 8.50

NECTARINES 175
from China
wt: 120.4 gm each
cost: $ 10.00

NECTARINES 200
from Greece
wt: 123.2 gm each
cost: $11.50

NECTARINES 75
from United States
wt: 3.9 ounces each
cost: $6.00

NECTARINES 50
from United States
wt: 4.0 ounces each
cost: $3.50

NECTARINES 100
from United States
wt: 4.1 ounces each
cost: $7.00

NECTARINES 125
from China
wt: 117.6 gm each
cost $8.00

NECTARINES 150
from United States
wt: 4.3 ounces each
cost: $9.00

NECTARINES 100
from Greece
wt: 123.2 gm each
cost: $ 7.00

NECTARINES 100
from United States
wt: 4.0 ounces each
cost: $6.50

NECTARINES 125
from China
wt: 117.6 gm each
cost: $9.00

NECTARINES 150
from United States
wt: 4.3 ounces each
cost: $9.50

NECTARINES 100
from Greece
wt: 123.2 gm each
cost: $6.00

NECTARINES 100
from United States
wt: 4.0 ounces each
cost: $7.50

CHEESE 20 PIECES
from United States
wt: 1.8 ounces per piece
cost: $5.00

CHEESE 25 PIECES
from Switzerland
wt 50 gm per piece
cost $4.00

CHEESE 30 PIECES
from Switzerland
wt 52 gm per piece
cost $6.00

CHEESE 35 PIECES
from France
wt: 45 gm per piece
Cost: $7.00

CHEESE 40 PIECES
from France
wt: 58 gm per piece
cost; $10.00

CHEESE 20 PIECES
from United States
wt .3 ounces each
cost; $2.00

CHEESE 25 PIECES
from Denmark
wt: 54 gm each
cost $6.50

CHEESE 40 PIECES
from Holland
wt: 57 gm per piece
cost: $9.00

CHEESE 20 PIECES
from United States
wt: .35 ounces each
cost: $3.00

CHEESE 25 PIECES
from Greece
wt; 55 gm each
cost: $4.50

BANANAS 50
from Equador
wt: 173.6 gm each
cost: $2.25

BANANAS 75
from Mexico
wt: 162.4 gm each
cost:$ 3.25

BANANAS 100
from Philippines
wt: 165.2 gm each
cost: $4.50

CHEESE 20 PIECES
from United States
wt: 1.5 ounces per piece
cost $4.00

CHEESE 25 PIECES
from Holland
wt; 55 gm per piece
cost $4.50

CHEESE 30 PIECES
from Denmark
wt: 56 gm per piece
cost: $ 6.50

CHEESE 35 PIECES
from Italy
wt: 55 gm per piece
cost: $8.00

BANANAS 50
from Gabon
wt: 173.6 gm each
cost: $3.00

BANANAS 75
from Nicaraqua
wt: 162.4 gm each
cost: $3.50

APPLES 100
from Romania
wt. 187.6 gm each
cost: $9.00

APPLES 100
from Israel
wt: 187.6 gm each
cost: $8.00

APPLES 100
from Italy
wt: 189 gm each
cost: $9.00

APPLES 100
from Korea
wt. 189 gm each
cost: $8.50

BANANAS 25
from St. Vincent
wt: 168 gm each
cost: $2.00

BANANAS 50
from Taiwan
wt: 170.8 gm each
cost: $2.00

GRAPEFRUIT 50
from United States
wt: 12.8 ounces each
cost: $11.50

GRAPEFRUIT 75
from United States
wt: 12.9 ounces each
cost: $13.00

GRAPEFRUIT 100
from United States
wt; 13.0 ounces each
cost: $25.00

GRAPEFRUIT 50
from United States
wt: 13.1 ounces each
cost: $11.00

GRAPEFRUIT 50
from United States
wt: 12.8 ounces each
cost: $10.50

GRAPEFRUIT 75
from United States
wt: 12.9 ounces each
cost: $14.00

GRAPEFRUIT 100
from United States
wt: 13.0 ounces each
cost: $23.00

GRAPEFRUIT 50
from United States
wt: 13.1 ounces each
cost: $ 9.00

BEST COPY AVAILABLE

CANDIES 50 PIECES
from United States
wt: .27 ounces per piece
cost; $1.50

CANDIES 50 PIECES
from United States
wt: .27 ounces per piece
cost $1.25

CANDIES 75 PIECES
from United States
wt: .22 ounces per piece
cost: $2.00

CANDIES 100 PIECES
from England
wt: 7 gm per piece
cost: $4.00

CANDIES 25 PIECES
from Germany
wt: 8 gm per piece
cost; $1.50

CANDIES 50 PIECES
from United States
wt: .3 ounces per piece
cost; $1.75

CANDIES 100 PIECES
from France
wt; 9 gm per piece
cost; $4.50

CANDIES 50 PIECES
from United States
wt: .25 ounces per piece
cost: $1.00

CANDIES 50 PIECES
from United States
wt: 25 ounces per piece
cost: $1.00

CANDIES 75 PIECES
from United States
wt: .24 ounces per piece
cost: $2.50

CANDIES 100 PIECES
from England
wt: 6.5 gm per piece
cost: $4.50

CANDIES 25 PIECES
from Germany
wt: 7.5 gm per piece
cost; $1.25

CANDIES 50 PIECES
from: United States
wt: .28 ounces per piece
cost: $2.00

CANDIES 100 PIECES
from Italy
wt: 8 gm per piece
cost: $3.75

TEA SAMPLERS 10
from Japan
wt: 42 gm each
cost: $.50

TEA SAMPLERS 20
from Sri Lanka
wt; 45 gm each
cost: $1.00

TEA SAMPLERS 30
from Bangladesh
wt: 40 gm each
cost: $2.50

TEA SAMPLERS 40
from China
wt: 43 gm each
cost: $3.50

TEA SAMPLERS 50
from Mauritius
wt: 43 gm each
cost: $4.50

TEA SAMPLERS 10
from Taiwan
wt: 45 gm each
cost; $1.00

TEA SAMPLERS 15
from Kenya
wt: 40 gm each
cost: $.50

TEA SAMPLERS 25
from India
wt; 42 gm each
cost: $1.00

TEA SAMPLERS 35
from Rwanda
wt: 43 gm each
cost: $3.00

TEA SAMPLERS 45
from Indonesia
wt: 42 gm each
cost: $4.00

TEA SAMPLERS 50
from Mozambique
wt: 45 gm each
cost: $5.00

TEA SAMPLERS 20
from Tanzania
wt: 45 gm each
cost: $1.50

GRAPES 20 BUNCHES
from Australia
wt; 375.2 gm per bunch
cost: $10.00

GRAPES 25 BUNCHES
from United States
wt: 13.5 ounces per bunch
cost: $12.00

GRAPES 30 BUNCHES
from Austria
wt; 414.4 gm per bunch
cost; $13.00

GRAPES 40 BUNCHES
from United States
wt: 15.3 ounces per bunch
cost: $18.00

PEACHES 50
from United States
wt: 5.3 ounces
cost: $5.50

PEACHES 100
from United States
wt: 6.5 ounces
cost: $12.50

PEACHES 75
from United States
wt: 6.6 ounces
cost: $9.50

GRAPES 20 BUNCHES
from Australia
wt; 375.2 gm per bunch
cost: $12.00

GRAPES 25 BUNCHES
from united States
wt; 13.5 ounces per bunch
cost: $14.00

GRAPES 30 BUNCHES
from Bulgaria
wt; 414.4 gm per bunch
cost: $14.00

GRAPES 40 BUNCHES
from United States
wt: 15.3 ounces per bunch
cost: $19.00

PEACHES 50
from United States
wt: 5.3 ounces
cost: $6.00

PEACHES 100
from United States
wt: 6.5 ounces
cost: $12.50

PEACHES 75
from United States
wt: 6.6 ounces
cost: $10.00

COFFEE SAMPLERS 10
from Brazil
wt: 50 gm each
cost: $1.25

COFFEE SAMPLERS 20
from El Salvador
wt: 52 gm each
cost: $2.00

COFFEE SAMPLERS 30
from Guatemala
wt: 50 gm each
cost: $3.00

COFFEE SAMPLERS 40
from Rwanda
wt: 50 gm each
cost; $3.75

COFFEE SAMPLERS 50
from Ivory Coast
wt: 52 gm each
cost; $4.50

COFFEE SAMPLERS 10
from Burundi
wt: 50 gm each
cost; $1.00

PEACHES 175
from Greece
wt: 175 gm each
cost: $17.00

COFFEE SAMPLERS 15
from Kenya
wt: 55 gm each
cost: $1.50

COFFEE SAMPLERS 25
from Colombia
wt: 50 gm each
cost: $2.50

COFFEE SAMPLERS 35
from Mexico
wt: 50 gm each
cost: $3.25

COFFEE SAMPLERS 45
from Bolivia
wt: 53 gm each
cost: $4.00

COFFEE SAMPLERS 50
from Hondorus
wt: 53 gm each
cost: $5.00

COFFEE SAMPLERS 15
from Trinidad
wt: 53 gm each
cost: $1.25

PEACHES 100
from Lebanon
wt: 179.2 gm each
cost: $12.00

BEST COPY AVAILABLE

PEARS 75
from United States
wt: 4.4 ounces
cost: $7.00

PEARS 50
from United States
wt: 4.5 ounces
cost: $ 4.50

PEARS 100
from United States
wt: 4.6 ounces
cost: $ 10.00

PEARS 75
from China
wt: 131.6 gm each
cost: $8.00

PEARS 100
from India
wt: 134.4 gm each
cost: $11.00

PEARS 150
from Italy
wt: 137.2 gm each
cost: $ 17.00

PEARS 50
from Malta
wt: 140 gm each
cost: $ 5.00

PEARS 75
from Romania
wt: 142.8 gm each
cost: $8.00

PEARS 150
from Switzerland
wt: 145.6 gm each
cost: $18.00

PEACHES 200
from United States
wt: 5.5 ounces
cost: $21.00

PEACHES 150
from France
wt: 162.4 gm each
cost: $14.00

PEACHES 50
from Korea
wt. 165.2 gm each
cost: $7.00

PEACHES 100
from Spain
wt: 170.8 gm. each
cost: $13.00

PEACHES 150
from China
wt: 173.6 gm each
cost: 17.00

PEACHES 125
from France
wt. 174.6 gm each
cost: $ 12.00

BANANAS 100
from St. Lucia
wt: 165.2 gm each
cost: $5.00

PEARS 75
from United States
wt. 4.4 ounces
cost. $6.50

PEARS 50
from United States
wt: 4.5 ounces
cost. $5.00

PEARS 100
from United States
wt: 4.6 ounces
cost: $11.00

PEARS 75
from China
wt: 131.6 gm each
cost $8.25

PEARS 100
from Germany
wt: 134.4 gm each
cost: $10.50

PEARS 150
from Lebanon
wt: 137.2 gm each
cost: $16.00

PEARS 50
from Portugal
wt: 140 gm each
cost: $ 6.00

PEARS 75
from Spain
wt: 142.8 gm each
cost: $8.50

PEARS 150
from Germany
wt: 145.6 gm each
cost $ 16.50

PEACHES 200
from United States
wt: 5.5 ounces
cost: $ 20.00

PEACHES 150
from Italy
wt: 162.4 gm each
cost: $15.00

PEACHES 50
from Greece
wt. 165.2 gm each
cost: $ 6.50

PEACHES 100
from Lebanon
wt: 170.8 gm each
cost: $12.00

PEACHES 150
from Turkey
wt: 173.6 gm each
cost: $16.00

ORANGES 150
from Hondurus
wt: 207 gm each
cost: $13.50

ORANGES 250
from Laos
wt: 210 gm each
cost: $20.00

ORANGES 175
from United States
wt: 7.6 ounces each
cost: $15.00

ORANGES 200
from Portugal
wt: 215.6 gm each
cost: $22.00

BANANAS 100
from Venezuela
wt: 173.6 gm each
cost: $4.75

BANANAS 25
from Angola
wt: 162.4 gm each
cost: $ 1.50

BANANAS 50
from Burundi
wt: 165.2 gm each
cost: $ 2.25

BANANAS 100
from Colombia
wt: 168 gm each
cost: $5.00

BANANAS 100
from Zaire
wt: 173.6 gm each
cost: $5.50

BANANAS 25
from Australia
wt: 162.4 gm each
cost: $2.00

BANANAS 50
from Central African
wt: 165.2 gm each
cost: $ 2.75

BANANAS 100
from Bolivia
wt: 168 gm each
cost: $5.25

PEACHES 125
from Italy
wt: 176.4 gm. each
cost: $13.00

BANANAS 25
from Somalia
wt: 168 gm each
cost: $ 2.50

BANANAS 50
from Tonga
wt: 170.8 gm each
cost: $ 2.50

ORANGES 75
from United States
wt: 7.8 ounces each
cost; $7.00

ORANGES 50
from Venezuela
wt: 221.2 gm each
cost: $6.00

ORANGES 75
from United States
wt: 8.0 ounces each
cost: $9.00

ORANGES 100
from Tonga
wt: 226.8 gm each
cost: $9.50

ORANGES 100
from Urugury
wt: 229.6 gm each
cost: $9.00

BANANAS 50
from Bolivia
wt: 162.4 gm each
cost: $ 2.50

BANANAS 75
from Cameroon
wt: 165.2 gm each
cost: $3.25

BANANAS 50
from Colombia
wt: 168 gm each
cost: $3.00

BANANAS 25
from Dominica
wt: 170.8 gm each
cost: $1.50

BANANAS 50
from Hondurus
wt: 162.4 gm each
cost: $2.00

BANANAS 75
from Brazil
wt: 165.2 gm. each
cost: $3.00

BANANAS 50
from Cape Verde
wt: 168 gm each
cost: $2.25

BANANAS 25
from Costa Rica
wt: 170.8 gm each
cost: $1.00

PEACHES 175
from Korea
wt: 175 gm each
cost $16.50

PEACHES 100
from Spain
wt. 179.2 gm each
cost: $12.50

PEACHES 150
from China
wt. 168 gm each
cost: $13.50

PEACHES 100
from France
wt: 151.2 gm each
cost: $11.00

PEACHES 150
from Turkey
wt: 168 gm each
cost: $14.00

PEACHES 100
from Italy
wt: 151.2 gm. each
cost: $10.00

PEARS 100
from Italy
wt: 148.4 gm each
cost: $ 10.00

PEARS 75
from Malta
wt: 151.2 gm each
cost: $ 8.25

PEARS 200
from Portugal
wt: 154 gm each
cost: $22.00

PEARS 50
from Romania
wt: 156.8 gm each
cost: $8.00

PEARS 100
from Lebanon
wt: 148.4 gm each
cost: $ 10.50

PEARS 75
from Portugal
wt: 151.2 gm each
cost: $9.00

PEARS 200
from Romania
wt: 154 gm each
cost: $21.00

PEARS 50
from Spain
wt: 156.8 gm each
cost: $7.00

BEST COPY AVAILABLE

Global Market

••An Educational Game••

CURRENCY SHEETS

Instructions/Suggestions:

You may want to enlarge these sheets and print them on cardstock paper in different colors.

100 SHILLINGS
GLOBAL MARKET MONEY
100 TANZANIAN
SHILLINGS
100 SHILLINGS

100 SHILLINGS
GLOBAL MARKET MONEY
100 TANZANIAN
SHILLINGS
100 SHILLINGS

500 SHILLINGS
GLOBAL MARKET MONEY
500 TANZANIAN
SHILLINGS
500 SHILLINGS

500 SHILLINGS
GLOBAL MARKET MONEY
500 TANZANIAN
SHILLINGS
500 SHILLINGS

500 SHILLINGS
GLOBAL MARKET MONEY
500 TANZANIAN
SHILLINGS
500 SHILLINGS

500 SHILLINGS
GLOBAL MARKET MONEY
500 TANZANIAN
SHILLINGS
500 SHILLINGS

10 JAPANESE YEN
GLOBAL MARKET
MONEY
10 JAPANESE YEN

10 JAPANESE YEN
GLOBAL MARKET
MONEY
10 JAPANESE YEN

10 JAPANESE YEN
GLOBAL MARKET
MONEY
10 JAPANESE YEN

10 JAPANESE YEN
GLOBAL MARKET
MONEY
10 JAPANESE YEN

10 JAPANESE YEN
GLOBAL MARKET
MONEY
10 JAPANESE YEN

10 JAPANESE YEN
GLOBAL MARKET
MONEY
10 JAPANESE YEN

100 JAPANESE YEN
GLOBAL MARKET
MONEY
100 JAPANESE YEN

100 JAPANESE YEN
GLOBAL MARKET
MONEY
100 JAPANESE YEN

100 JAPANESE YEN
GLOBAL MARKET
MONEY
100 JAPANESE YEN

100 JAPANESE YEN
GLOBAL MARKET
MONEY
100 JAPANESE YEN

100 JAPANESE YEN
GLOBAL MARKET
MONEY
100 JAPANESE YEN

100 JAPANESE YEN
GLOBAL MARKET
MONEY
100 JAPANESE YEN

500 JAPANESE YEN
GLOBAL MARKET
MONEY
500 JAPANESE YEN

500 JAPANESE YEN
GLOBAL MARKET
MONEY
500 JAPANESE YEN

500 JAPANESE YEN
GLOBAL MARKET
MONEY
500 JAPANESE YEN

500 JAPANESE YEN
GLOBAL MARKET
MONEY
500 JAPANESE YEN

500 JAPANESE YEN
GLOBAL MARKET
MONEY
500 JAPANESE YEN

500 JAPANESE YEN
GLOBAL MARKET
MONEY
500 JAPANESE YEN

1000 YEN
GLOBAL MARKET MONEY
1000 JAPANESE YEN
1000 YEN

1000 YEN
GLOBAL MARKET MONEY
1000 JAPANESE YEN
1000 YEN

1000 SHILLINGS
GLOBAL MARKET MONEY
1000 TANZANIAN
SHILLINGS
1000 SHILLINGS

1000 SHILLINGS
GLOBAL MARKET MONEY
1000 TANZANIAN
SHILLINGS
1000 SHILLINGS

1000 SHILLINGS
GLOBAL MARKET MONEY
1000 TANZANIAN
SHILLINGS
1000 SHILLINGS

1000 SHILLINGS
GLOBAL MARKET MONEY
1000 TANZANIAN
SHILLINGS
1000 SHILLINGS

50 SHILLINGS
GLOBAL MARKET MONEY
FIFTY TANZANIAN
SHILLINGS
50 SHILLINGS

50 SHILLINGS
GLOBAL MARKET MONEY
FIFTY TANZANIAN
SHILLINGS
50 SHILLINGS

50 SHILLINGS
GLOBAL MARKET MONEY
FIFTY TANZANIAN
SHILLINGS
50 SHILLINGS

50 SHILLINGS
GLOBAL MARKET MONEY
FIFTY TANZANIAN
SHILLINGS
50 SHILLINGS

50 SHILLINGS
GLOBAL MARKET MONEY
FIFTY TANZANIAN
SHILLINGS
50 SHILLINGS

50 SHILLINGS
GLOBAL MARKET MONEY
FIFTY TANZANIAN
SHILLINGS
50 SHILLINGS

50 SHILLINGS
GLOBAL MARKET MONEY
FIFTY TANZANIAN
SHILLINGS
50 SHILLINGS

50 SHILLINGS
GLOBAL MARKET MONEY
FIFTY TANZANIAN
SHILLINGS
50 SHILLINGS

100 SHILLINGS
GLOBAL MARKET MONEY
100 TANZANIAN
SHILLINGS
100 SHILLINGS

100 SHILLINGS
GLOBAL MARKET MONEY
100 TANZANIAN
SHILLINGS
100 SHILLINGS

1 FRANC
GLOBAL MARKET MONEY
ONE FRENCH FRANC
1 FRANC

1 FRANC
GLOBAL MARKET MONEY
ONE FRENCH FRANC
1 FRANC

1 POUND
GLOBAL MONEY MARKET
ONE ENGLISH POUND
1 POUND

1 POUND
GLOBAL MARKET MON
ONE ENGLISH POUND
1 POUND

1 FRANC
GLOBAL MARKET MONEY
ONE FRENCH FRANC
1 FRANC

1 FRANC
GLOBAL MARKET MONEY
ONE FRENCH FRANC
1 FRANC

1 POUND
GLOBAL MONEY MARKET
ONE ENGLISH POUND
1 POUND

1 POUND
GLOBAL MONEY MARKET
ONE ENGLISH POUND
1 POUND

5 FRANC
GLOBAL MARKET MONEY
FIVE FRENCH FRANC
5 FRANC

5 FRANC
GLOBAL MONEY MARKET
FIVE FRENCH FRANC
5 FRANC

5 POUNDS
GLOBAL MONEY MARKET
FIVE ENGLISH POUNDS
5 POUNDS

5 POUNDS
GLOBAL MONEY MARKET
FIVE ENGLISH POUND
5 POUND

10 FRANC
GLOBAL MARKET MONEY
TEN FRENCH FRANC
10 FRANC

10 FRANC
GLOBAL MARKET MONEY
TEN FRENCH FRANC
10 FRANC

10 POUNDS
GLOBAL MONEY MARKET
TEN ENGLISH POUNDS
10 POUNDS

10 POUNDS
GLOBAL MONEY MARKET
TEN ENGLISH POUND
10 POUND

10 ENGLISH PENCE
GLOBAL MARKET
MONEY
10 ENGLISH PENCE

10 ENGLISH PENCE
GLOBAL MARKET
MONEY
10 ENGLISH PENCE

10 ENGLISH PENCE
GLOBAL MARKET
MONEY
10 ENGLISH PENCE

10 FRENCH CENTIMES
GLOBAL MARKET
MONEY
10 FRENCH CENTIMES

10 FRENCH CENTIMES
GLOBAL MARKET
MONEY
10 FRENCH CENTIMES

10 FRENCH CENTIMES
GLOBAL MARKET
MONEY
10 FRENCH CENTIMES

10 ENGLISH PENCE
GLOBAL MARKET
MONEY
10 ENGLISH PENCE

10 ENGLISH PENCE
GLOBAL MARKET
MONEY
10 ENGLISH PENCE

10 ENGLISH PENCE
GLOBAL MARKET
MONEY
10 ENGLISH PENCE

10 FRENCH CENTIMES
GLOBAL MARKET
MONEY
10 FRENCH CENTIMES

10 FRENCH CENTIMES
GLOBAL MARKET
MONEY
10 FRENCH CENTIMES

10 FRENCH CENTIMES
GLOBAL MARKET
MONEY
10 FRENCH CENTIMES

10 MARKS
GLOBAL MARKET MONEY
TEN GERMAN MARKS
10 MARKS

10 MARKS
GLOBAL MONEY MARKET
TEN GERMAN MARK
10 MARKS

1 MARK
GLOBAL MARKET MONEY
ONE GERMAN MARK
1 MARK

1 MARK
GLOBAL MONEY MARKET
ONE GERMAN MARK
1 MARK

10 GERMAN PFENNIGS
GLOBAL MARKET
MONEY
10 GERMAN PFENNIGS

10 GERMAN PFENNIGS
GLOBAL MARKET
MONEY
10 GERMAN PFENNIGS

10 GERMAN PFENNIGS
GLOBAL MARKET
MONEY
10 GERMAN PFENNIGS

1 MARK
GLOBAL MARKET MONEY
ONE GERMAN MARK
1 MARK

1 MARK
GLOBAL MARKET MONEY
ONE GERMAN MARK
1 MARK

10 GERMAN PFENNIGS
GLOBAL MARKET
MONEY
10 GERMAN PFENNIGS

10 GERMAN PFENNIGS
GLOBAL MARKET
MONEY
10 GERMAN PFENNIGS

10 GERMAN PFENNIGS
GLOBAL MARKET
MONEY
10 GERMAN PFENNIGS

5 MARKS
GLOBAL MARKET MONEY
FIVE GERMAN MARKS
1 MARKS

5 MARKS
GLOBAL MARKET MONEY
FIVE GERMAN MAR
5 MARK

20 RUBLES
GLOBAL MONEY MARKET
TWENTY RUSSIAN RUBLES
20 RUBLES

20 RUBLES
GLOBAL MONEY MARKET
TWENTY RUSSIAN RUBLES
20 RUBLES

20 RUBLES
GLOBAL MONEY MARKET
TWENTY RUSSIAN RUBLES
20 RUBLES

20 RUBLES
GLOBAL MONEY MARKET
TWENTY RUSSIAN RUBLES
20 RUBLES

50 RUBLES
GLOBAL MONEY MARKET
FIFTY RUSSIAN RUBLES
50 RUBLES

50 RUBLES
GLOBAL MONEY MARKET
FIFTY RUSSIAN RUBLES
50 RUBLES

10000 AUSTRALS
GLOBAL MARKET MONEY
10000 ARGENTINA
AUSTRALS
10000 AUSTRALS

10000 AUSTRALS
GLOBAL MARKET MONEY
10000 ARGENTINA
AUSTRALS
10000 AUSTRALS

5000 AUSTRALS
GLOBAL MARKET MONEY
5000 ARGENTINA
AUSTRALS
5000 AUSTRALS

1 RUBLE
GLOBAL MONEY MARKET
ONE RUSSIAN RUBLE
1 RUBLE

1 RUBLE
GLOBAL MONEY MARKET
ONE RUSSIAN RUBLE
1 RUBLE

10 RUBLES
GLOBAL MONEY MARKET
TEN RUSSIAN RUBLES
10 RUBLES

10 RUBLES
GLOBAL MONEY MARKET
TEN RUSSIAN RUBLES
10 RUBLES

10 RUBLES
GLOBAL MONEY MARKET
TEN RUSSIAN RUBLES
10 RUBLES

10000 AUSTRALS
GLOBAL MARKET MONEY
10000 ARGENTINA
AUSTRALS
10000 AUSTRALS

50000 AUSTRALS
GLOBAL MARKET MONEY
50000 ARGENTINA
AUSTRALS
50000 AUSTRALS

5000 AUSTRALS
GLOBAL MARKET MONEY
5000 ARGENTINA
AUSTRALS
5000 AUSTRALS

1 RUBLE
GLOBAL MONEY MARKET
ONE RUSSIAN RUBLE
1 RUBLE

1 RUBLE
GLOBAL MONEY MARKET
ONE RUSSIAN RUBLE
1 RUBLE

10 RUBLES
GLOBAL MONEY MARKET
TEN RUSSIAN RUBLES
10 RUBLES

10 RUBLES
GLOBAL MONEY MARKET
TEN RUSSIAN RUBLES
10 RUBLES

10 RUBLES
GLOBAL MONEY MARKET
TEN RUSSIAN RUBLES
10 RUBLES

10000 AUSTRALS
GLOBAL MARKET MONEY
10000 ARGENTINA
AUSTRALS
10000 AUSTRALS

50000 AUSTRALS
GLOBAL MARKET MONEY
50000 ARGENTINA
AUSTRALS
50000 AUSTRALS

500 AUSTRALS
GLOBAL MARKET MONEY
500 ARGENTINA
AUSTRALS
500 AUSTRALS

500 AUSTRALS
GLOBAL MARKET MONEY
500 ARGENTINA
AUSTRALS
500 AUSTRALS

1
GLOBAL MARKET MONEY
ONE U.S. DOLLAR
1

1
GLOBAL MARKET MON
ONE U.S. DOLLAR
1

1000 AUSTRALS
GLOBAL MARKET MONEY
1000 ARGENTINA
AUSTRALS
1000 AUSTRALS

1000 AUSTRALS
GLOBAL MARKET MONEY
1000 ARGENTINA
AUSTRALS
1000 AUSTRALS

1
GLOBAL MARKET MONEY
ONE U.S. DOLLAR
1

1
GLOBAL MARKET MONEY
ONE U.S. DOLLAR
1

5
GLOBAL MARKET MONEY
FIVE U.S. DOLLARS
5

5
GLOBAL MARKET MONEY
FIVE U.S. DOLLARS
5

1000 AUSTRALS
GLOBAL MARKET MONEY
1000 ARGENTINA
AUSTRALS
1000 AUSTRALS

1000 AUSTRALS
GLOBAL MARKET MONEY
1000 ARGENTINA
AUSTRALS
1000 AUSTRALS

10
GLOBAL MARKET MONEY
TEN U.S. DOLLARS
10

20
GLOBAL MONEY MARKET
TWENTY U.S.
20

5000 AUSTRALS
GLOBAL MARKET MONEY
5000 ARGENTINA
AUSTRALS
5000 AUSTRALS

5000 AUSTRALS
GLOBAL MARKET MONEY
5000 ARGENTINA
AUSTRALS
5000 AUSTRALS

25 US CENTS
GLOBAL MARKET
MONEY
25 US CENTS

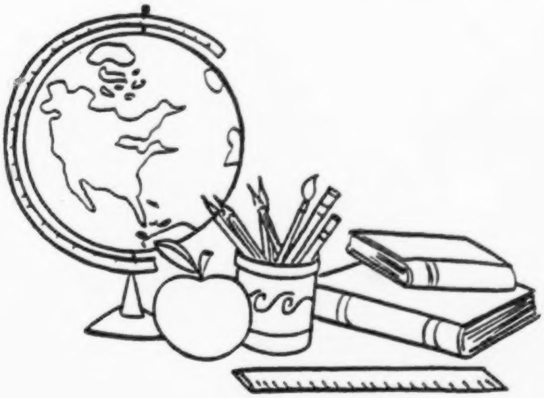
25 US CENTS
GLOBAL MARKET
MONEY
25 US CENTS

25 US CENTS
GLOBAL MARKET
MONEY
25 US CENTS

25 US CENTS
GLOBAL MARKET
MONEY
25 US CENTS

25 US CENTS
GLOBAL MARKET
MONEY
25 US CENTS

25 US CENTS
GLOBAL MARKET
MONEY
25 US CENTS



Reference List
Instructional Materials, International Agriculture

Instructional Materials Service (nd), Teaching materials on international agriculture. College Station, TX 77843: Texas A&M University, F.E. Box 2588, including: #8356, *Factors Affecting World Trade*; #8361, *The World Food Chain--From Production to Consumption*; #8362, *The World Fiber Chain--From Production to Consumption*; #8357, *The Impact of Agriculture as a Political Tool*; and #8352, *The Impact of Agriculture on the World Economy*.

Martin, Robert A. (1989, April), A global perspective for agricultural education, *The Agricultural Education Magazine*, *61*(10), 4-5.

Martin, Robert A. & Keller, Jack (1989, April), Internationalizing agricultural education: An infusion project, *The Agricultural Education Magazine*, 61 (10), 15 & 19.

McCracken, J. David & Magisos, Joel H. (1989, April), Integrating international concepts into the curriculum, *The Agricultural Education Magazine*, 61 (10), 9-11.

Moore, E.A., Stockil, J. & Williams, E. (1989, July). *Internationalizing agricultural education programs*. East Lansing: Michigan State University, Agricultural and Extension Education.

Remy, R.C., Ed. (1982, Summer). Global education, *Theory Into Practice*, *21*(3). (Entire issue)

Remy, R.C., Harf, J.E. & Trout, B.T. (1988, November). *Teaching about national security*. Menlo Park, CA: Addison-Wesley Publishing Company.

U.S. Department of Agriculture, Foreign Agriculltural Service. *AgExporter* (monthly periodical).

Wimmer, M.J. & Malucci, M. (1989, April). *International connections: A resource for extension and community education programs*. East Lansing: Michigan State University, Cooperative Extension Service.

Woyach, R.B., Black, D.E., Kleinhenz, L, & Wiget, D.J. (1983, May). *Bringing a global perspective to economics: Key ideas for teachers*. Columbus: The Ohio State University, Mershon Center.

Woyach, R.B., Donaldson, C.R., Randolph, W.H. & Stewart, J.M. (1983, May). *Bringing a global perspective to American government*. Columbus: The Ohio State University, Mershon Center.

Woyach, R.B., Flowers, R.D., Rentel, D.W. & Wood, C.D. (1983, May). *Bringing a global perspective to world geography: Key ideas for teachers*. Columbus: The Ohio State University, Mershon Center.

••Evaluation••

Infusing a Global Perspective into the Study of Agriculture
Volume II

We are interested in your thoughts and ideas regarding the usefulness of this packet of student activities related to international agriculture. Please complete the following assessment and send it to John Pope, Executive Director, The Council, Mount Vernon Memorial Hwy., Alexandria, VA 22309. We will compile the information and share it with you. Please share your assessment of this packet.

Use the following scale: SA=Strongly Agree; A=Agree; U=Undecided; D=Disagree; SD=Strongly Disagree.

1. The packet on International Agriculture Volume II was useful. SA A U D SD
2. The student activities were easy to use. SA A U D SD
3. The information was easy to understand. SA A U D SD
4. The activities didn't require too much preparation time. SA A U D SD
5. We need more student activity packets like this one. SA A U D SD
6. International agriculture is an important topic for our program of agricultural education SA A U D SD
7. I need more inservice education to effectively facilitate learning in this area. SA A U D SD

Comments: ______________________________

____

____

Instructor: ______________________________

School: ______________________________

Address: ______________________________

____
City State Zip

THE
COUNCIL

The National Council for Agricultural Education is a national partnership organized to foster creative and innovative leadership for the improvement and further development of agricultural education as a part of public education.